# REVISION HISTORY BG3R CHASSIS

MODEL

*KV-XA21M80*

PART NO. : 9-872-310-01

| NO. | SUFFIX | DATE | SUPPL. / CORR | DESCRIPTION |
|---|---|---|---|---|
| 1 | -01 | 2002/6 | -- | 1st. Issue |
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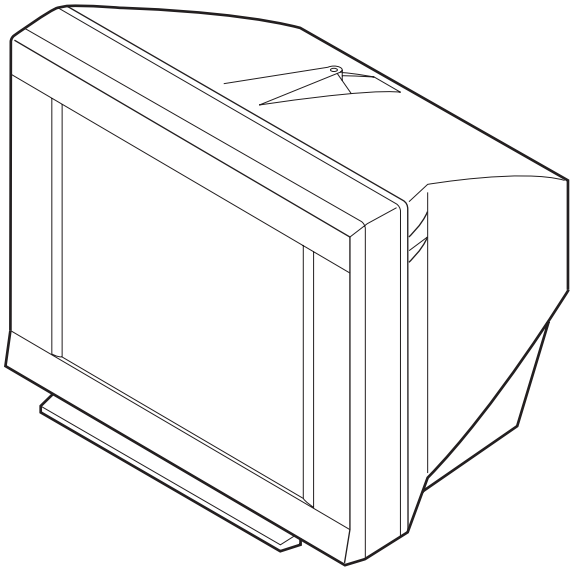
Self Diagnosis
Supported model

# SERVICE MANUAL BG3R CHASSIS

| MODEL | COMMANDER | DEST. | CHASSIS NO. | MODEL | COMMANDER | DEST. | CHASSIS NO. |
|---|---|---|---|---|---|---|---|
| KV-XA21M80 | RM-952 | India | SCC-U60J-A | | | | |



TRINITRON® COLOR TV

SONY®

## SPECIFICATIONS

| | | | Note |
|---|---|---|---|
| **Power requirements** | 110-240 V AC, 50/60 Hz | | |
| **Power consumption (W)** | Indicated on the rear of the TV | | |
| **Television system** | B/G, I, D/K, M | | |
| **Color system** | PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43 | | |
| **Channel coverage** | | | |
| **B/G** | VHF: E2 to E12 / UHF: E21 to E69 /<br>CATV: S01 to S03, S1 to S41 | | |
| **I** | UHF: B21 to B68, CATV: S01 to S03, S1 to S41 | | |
| **D/K** | VHF: C1 to C12, R1 to R12 / UHF: C13 to C57, R21 to R60 /<br>CATV: S01 to S03, S1 to S41, Z1 to Z39 | | |
| **M** | VHF: A2 to A13 / UHF: A14 to A79 /<br>CATV: A-8 to A-2, A to W+4, W+6 to W+84 | | |
| **(Antenna)** | 75-ohm external terminal | | |
| **Audio output (Speaker)** | 5W + 5W | | |
| **Number of terminal** | | | |
| **Video** | Input: 2 Output: 1 | Phono jacks; 1 $V_{P-P}$, 75 ohms | |
| **Audio** | Input: 2 Output: 1 | Phono jacks; 500 mVrms | |
| **(Headphone)** | Output: 1 | Stereo minijack | |
| **Picture tube** | 21 in. | | |
| **Tube size (cm)** | 54 | | Measured diagonally |
| **Screen size (cm)** | 51 | | Measured diagonally |
| **Dimension (w/h/d, mm)** | 620 x 452 x 496 | | |
| **Mass (kg)** | 26 | | |

Design and specifications are subject to change without notice.

**CAUTION**

**SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.**

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

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# SELF DIAGNOSTIC FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER lamp will automatically begin to flash.
The number of times the lamp flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER lamp flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

## 1. DIAGNOSTIC TEST INDICATORS

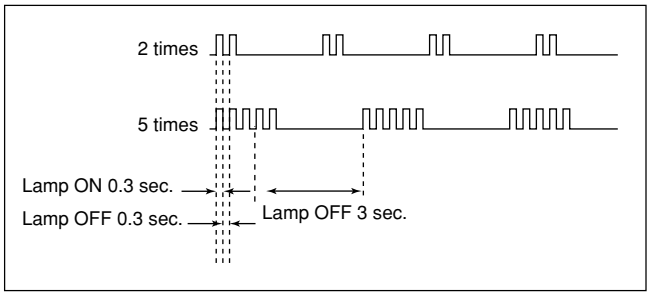
When an errors occurs, the STANDBY/TIMER lamp will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

Result for all of the following diagnostic items are displayed on screen. No error has occured if the screen displays a "0".

| Diagnostic Item Description | No. of times STANDBY/TIMER lamp flashes | Self-diagnostic display/Diagnostic result | Probable Cause Location | Detected Symptoms |
|---|---|---|---|---|
| • Power does not turn on | Does not light | — | • Power cord is not plugged in.<br>• Fuse is burned out F4601 (F) | • Power does not come on.<br>• No power is supplied to the TV.<br>• AC power supply is faulty. |
| • +B overcurrent (OCP) or overvoltage (OVP)<br>• Vertical deflection stopped<br>• Horizontal deflection overdrive | 2 times | 002:000 or<br>002:001~255<br>003:001~255<br>004:001~255<br>at the same time | • H.OUT Q511 is shorted. (A board)<br>• IC700 is shorted (C1 board)<br>• -13V is not supplied. (A board)<br>• IC 503 faulty (A board) | • Power does not come on.<br>• Load on power line is shorted.<br>• Has entered standby state after horizontal raster.<br>• Vertical deflection pulse is stopped.<br>• Power line is shorted or power supply is stopped. |
| • White balance failure (no PICTURE) | 5 times | 005:000 or<br>005:001~225 | • G2 is improperly adjusted. (Note 2)<br>• CRT problem.<br>• IC700 out is faulty (C1 board)<br>• IC301 is faulty. (A board)<br>• No connection A board to C1 board. | • No raster is generated.<br>• CRT cathode current detection reference pulse output is small. |
| • Micro reset | — | 101:00 or<br>101:001~225 | • Discharge CRT (C1 Board)<br>• Static discharge<br>• External noise | • Power is shut down shortly, after this return back to normal.<br>• Detect Micro latch up. |

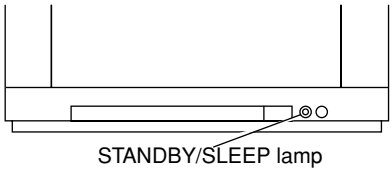
Note 1: If a + B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.
The symptom that is diagnosed first by the microcontroller is displayed on the screen.
Note 2: Refer to screen (G2) Adjustment in section 3-4 of this manual.
* IC700 out is faulty (C1 board).

## 2. DISPLAY OF STANDBY/TIMER LIGHT FLASH COUNT




| Diagnostic Item | Flash Count* |
|---|---|
| +B overcurrent/overvoltage<br>Vertical deflection stopped | 2 times |
| White balance failure | 5 times |

* One flash count is not used for self-diagnostic.




## 3. STOPPING THE STANDBY/TIMER FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER lamp from flashing.

## 4. SELF-DIAGNOSTIC SCREEN DISPLAY

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurances of failure for confirmation on the screen:

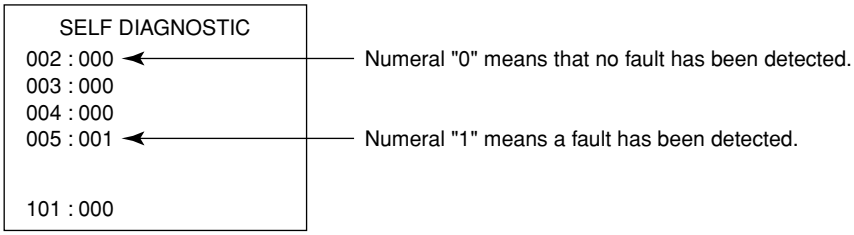
**[To Bring Up Screen Test]**
In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

Screen display ➡ channel 5 ➡ Sound volume - ➡ Power ON

⇧

Note that this differs from entering the service mode (mode volume +).

**Self-Diagnosis screen display**


SELF DIAGNOSTIC
002 : 000
003 : 000
004 : 000
005 : 001
101 : 000
Numeral "0" means that no fault has been detected.
Numeral "1" means a fault has been detected.

## 5. HANDLING OF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.

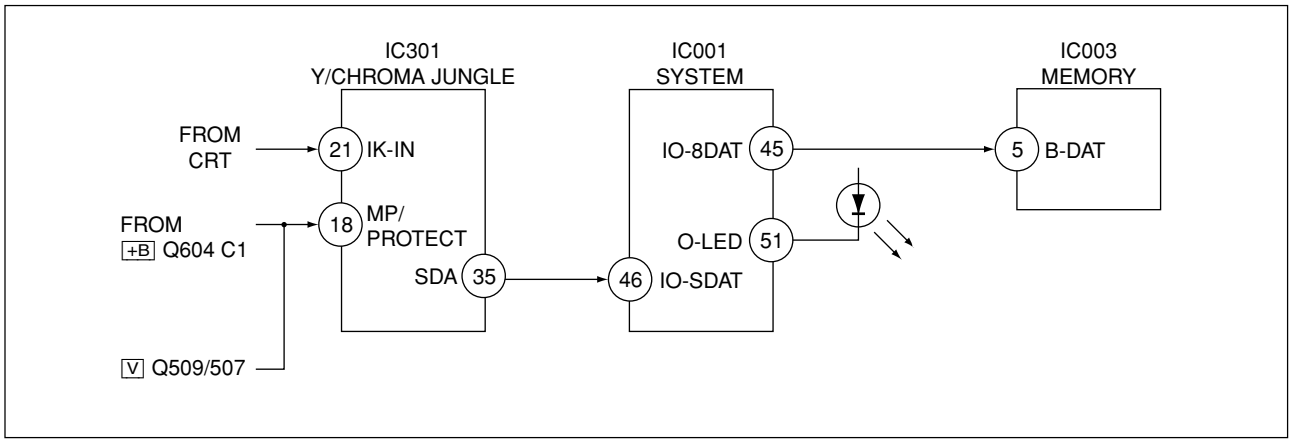
Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

**[Clearing the result display]**
To clear the result display to “0”, press buttons on the remote commander sequentially as shown below when the diagnostic screen is being displayed.

Channel [8] ➡ 0

**[Quitting Self-diagnostic screen]**
To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

## 6. SELF-DIAGNOSTIC CIRCUIT

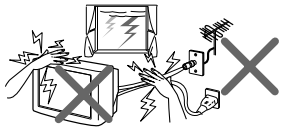



| | |
|---|---|
| +B overcurrent (OCP) | Occurs when an overcurrent on the +B(135) line is detected by Q604. If Q604 go to ON and the voltage to pin 18 of IC301 should go down when V.SYNC is more than seven verticals in a period, the unit will automatically turn off. |
| Vertical deflection stopped | Occurs when an absence of the vertical deflection pulse is detected by Q509 and IC001 shut down the power supply. |
| Vertical deflection overcurrent | Occurs when an overcurrent on V drive line is detected by Q507. Power supply will be shut down when detect this by IC001. |
| White balance failure | If the RGB levels* do not balance or become low level within 5 seconds, this error will be detected by IC301. TV will stay on, but there will be no picture.<br><br>* (Refers to the RGB levels of the AKB detection Ref pulse that detects IK.) |

**The operating instruction mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.**

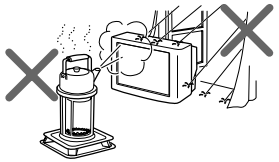
# WARNING

- Dangerously high voltages are present inside the TV.
- Operate the TV only between 110 – 240 V AC.

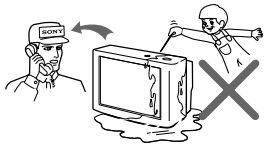


For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.

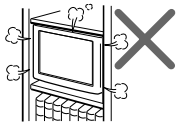
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



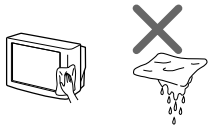
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



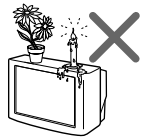

Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



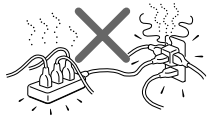
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



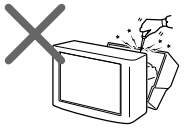
Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not scratch the picture tube.



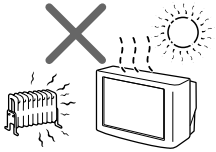
Do not place any objects on the TV.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



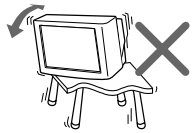
Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



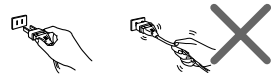


# SECTION 1
# GENERAL

***WARNING (continued)***



Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



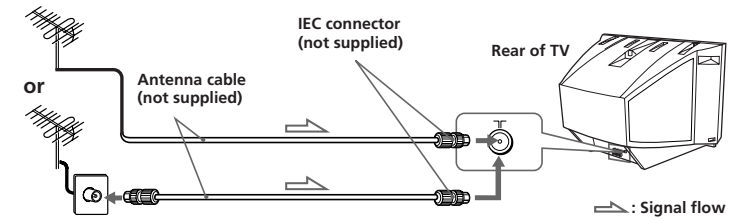
Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

# Getting Started

## Step 1

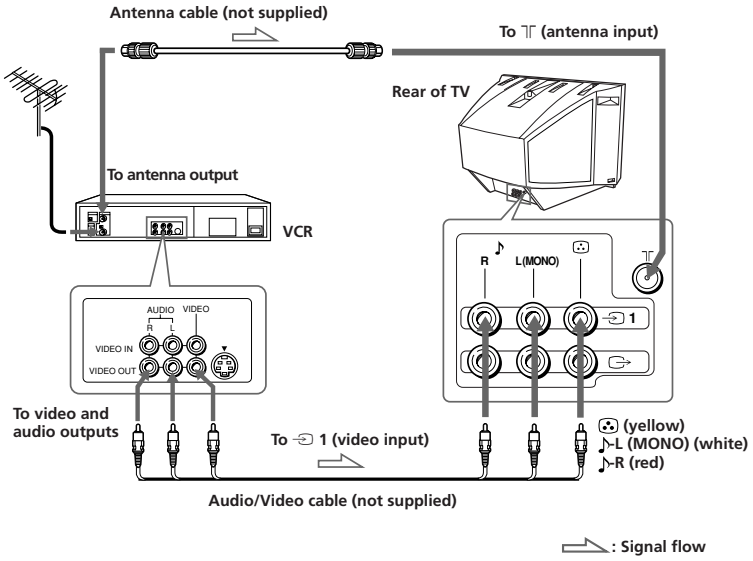
### Connect the antenna

If you wish to connect a VCR, see the **Connecting a VCR** diagram below.




### Connecting a VCR

To watch the video input, press ⊖ (see page 13).






**Notes**

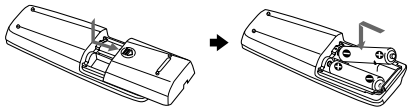
- If you connect a monaural VCR, connect the yellow plug to (the yellow jack) and the black plug to L (MONO) (the white jack).
- If you connect a VCR to the ⊤ (antenna input) terminal, preset the signal output from the VCR to the program number 0 on the TV.
- When no signal is input from the connected video equipment, the TV screen becomes blue.

**CAUTION**

- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid that leaks from the batteries touches you, immediately wash it away with water.

## Step 2

### Insert the batteries into the remote

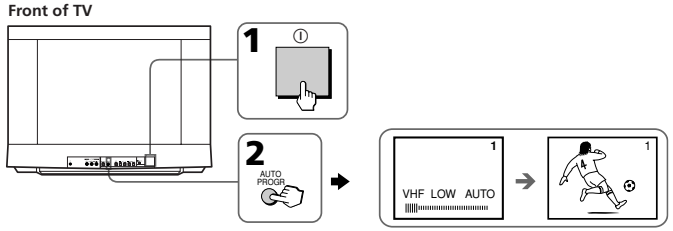


**Note**

- Do not use old batteries nor use different types of batteries together.

## Step 3

### Preset the channels automatically




**Tips**

- If you want to stop automatic channel presetting, press SELECT twice.
- If your TV has preset an unwanted channel or cannot preset a particular channel, then preset your TV manually (see page 10).

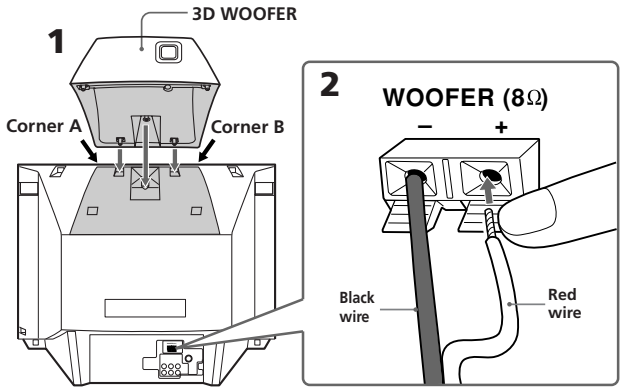
**Note (KV-XA21M83/XA21M80 only)**

- During automatic channel presetting, your TV screen will indicate "B/G" , "I", "D/K" or "M" for the TV system.

# Connecting the 3D WOOFER

**(KV-XA21M93/XA21M83 only)** (Not used for this model)

You can enjoy high quality sound by connecting the 3D WOOFER.




**1** Align the front of the 3D WOOFER to corners A and B of your TV. Place the 3D WOOFER into the footholds and adjust it until it is stable.

**2** Connect the wires to the 3D WOOFER (8Ω) terminals at the rear of your TV. The red wire should be connected to the ⊕ red terminal and the black wire to the ⊖ black terminal.

**Notes**

- Connect only the supplied 3D WOOFER; otherwise your TV may malfunction.
- Unplug your TV from the wall outlet when connecting the 3D WOOFER.
- To prevent a malfunction caused by a short circuit of the terminals, make sure that none of the 3D WOOFER wire strands stick out, making contact with the neighbouring 3D WOOFER terminal.



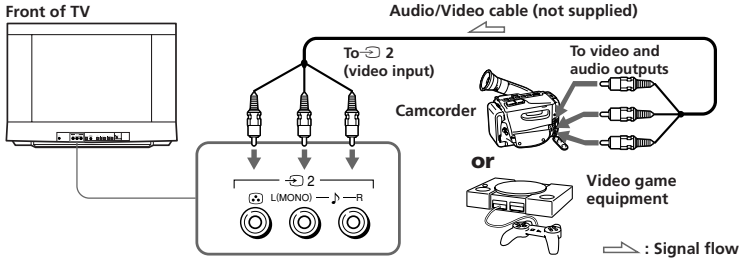
# Connecting optional components



You can connect optional audio/video components, such as a VCR, multi disc player, camcorder, video game or stereo system.

To watch the video input of the connected equipment, press ⊖ (see page 13).

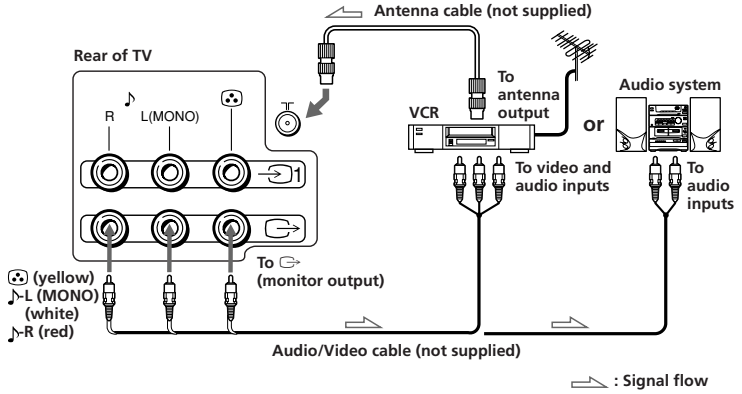
## Connecting a camcorder/video game equipment using the ⊖ (video input) jacks




**Note**

- You can also connect video equipment to the ⊖ 1 (video input) jack at the rear of your TV.

## Connecting audio/video equipment using the ⊕ (monitor output) jacks




**Note**

- If you connect a monaural VCR, connect the yellow plug to (the yellow jack) and the black plug to ♪-L (MONO) (the white jack).

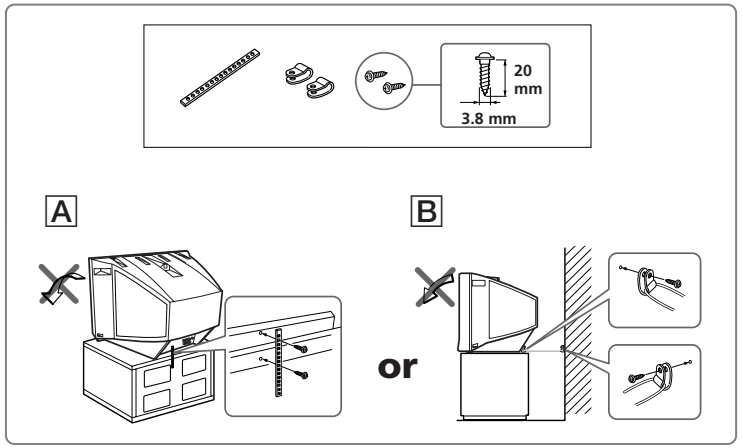
# Securing the TV

To prevent the TV from falling, secure the TV using one of the following methods:

A With the supplied screws, attach the band to the TV stand and to the rear of the TV using the provided hole.

**or**

B Put the cord or chain through the clamps to secure the TV against a wall or pillar.




**Note**

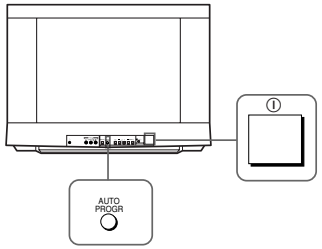
- Use only the supplied screws. Use of other screws may damage the TV.

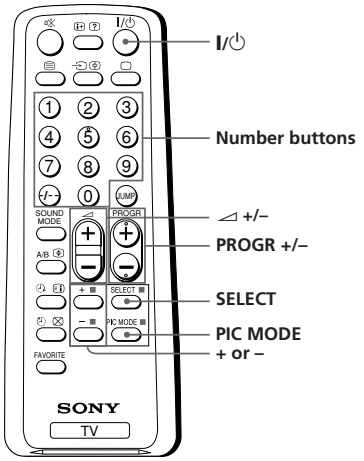




# Presetting channels

You can preset up to 100 TV channels in numerical sequence from program number 1 using the remote and the buttons on your TV as well.




## Presetting channels automatically

**1** Press ⏻ to turn on the TV.

**2** Press AUTO PROGR.

**Note (KV-XA21M83/XA21M80 only)**

- During automatic channel presetting, your TV screen will indicate "B/G" , "I", "D/K" or "M" for the TV system.

### To preset channels automatically from a specified program number

(1) Press SELECT until "AUTO PROGRAM" appears.

(2) Press + or – to enter the "AUTO PROGRAM" mode.
The on-screen display will start flashing.

(3) Press PROGR +/– or the number buttons until the desired program number appears.

(4) Press + or – to start presetting channels automatically.

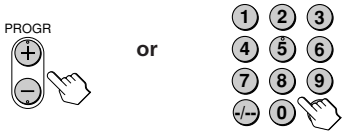
continued

## Presetting channels manually

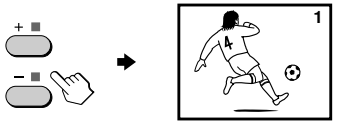
**1** Press SELECT until "MANUAL PROGRAM" appears.

**2** Press + or – to enter the "MANUAL PROGRAM" mode.

**3** Press PROGR +/– or the number buttons until the desired program number appears.




**4** Press + or – until the desired channel picture appears.

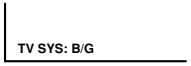



**5** Press SELECT to exit the "MANUAL PROGRAM" mode.

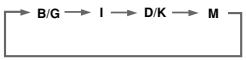
### To change the TV system setting

If the picture or sound is abnormal when receiving programs through the ⅂ (antenna input) terminal

(1) Press SELECT until "TV SYS" appears.




(2) Press + or – to select the appropriate TV system until the picture or sound quality is optimal.



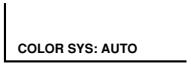





### To change the color system setting

If the color is abnormal when receiving programs through the ⅂ (antenna input) terminal or the ⇨ (video input) jack.

(1) Press SELECT until "COLOR SYS" appears.




(2) Press + or – to select the appropriate color system until the color is optimal.

**Tip**

- Normally set "COLOR SYS" to "AUTO".

## Skipping program numbers

**1** Press PROGR +/– or the number buttons until the unused or unwanted program number appears.

**2** Press SELECT until "MANUAL PROGRAM" appears.

**3** Press + or – to enter the "MANUAL PROGRAM" mode.

**4** Press PIC MODE.

**5** Press SELECT to exit the "MANUAL PROGRAM" mode.

### To restore the skipped program number again

Preset the channel automatically or manually.

**Tip**

- You can also use SELECT and ◿ +/– on the TV to preset channels and skip program numbers.

### To use the fine tuning (FINE) function

The fine tuning (FINE) function may help to reduce the following problems: double images and lines moving across the TV screen.

You can use the fine tuning function as below:

(1) Select the program number you want to adjust.
(2) Press SELECT until "MANUAL PROGRAM" appears on the screen.
(3) Press + or – on the remote control once.
(4) Press ⓘ to display "FINE" on the screen.
(5) Press + or – continuously until the above problems are minimized. The + or – icon on the screen flashes while tuning.
(6) Press SELECT to return to normal screen.





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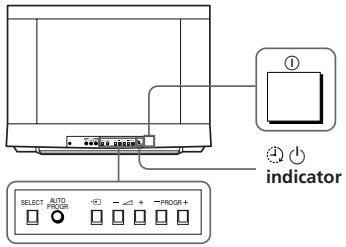
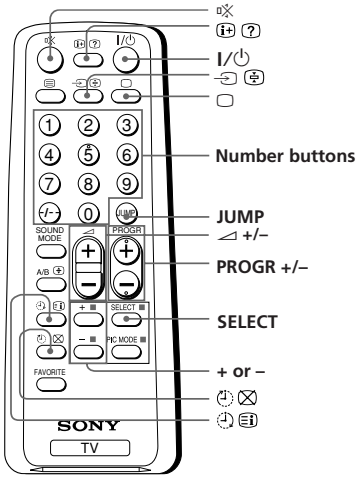
# Watching the TV

This section explains functions used while watching the TV. Most operations can be done using the remote.



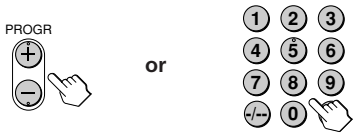




**1** Press ⏻ to turn on the TV.

When the TV is in the standby mode (the ⏻ indicator on the TV is lit red), press I/⏻ on the remote or PROGR +/– on the TV.

**2** Press PROGR +/– or the number buttons to select the program number.

For double digit numbers, press -/--, then the number (e.g., for 25, press -/--, then 2 and 5).




**3** Press +/– to adjust the volume.

## Additional tasks

| To | Press |
|---|---|
| Turn off temporarily | I/⏻. The ⏻ indicator on the TV lights up red. |
| Turn off completely | ⏻ on the TV. |
| Mute the sound | 🔇. |
| Watch the video input (VCR, camcorder, etc.) | ⏎ to select "VIDEO 1" or "VIDEO 2". To return to the TV program, press 🖵. |
| Jump back to the previous program number | JUMP. |
| Display the on-screen information* | ⓘ. |
| Adjust the volume of all program numbers automatically | SELECT repeatedly until "INTELLIGENT VOL" appears, then press + or – to select "ON". To cancel, select "OFF". |
| Adjust the picture position when it is not aligned to the TV screen | SELECT repeatedly until "PIC ROTATION" appears, then press + or – to adjust the alignment of the picture position. The ⤵⊞ or ⊟⤴ icon on the screen flashes while adjusting. |

* The picture, sound, and either the program number or video input are displayed. The on-screen display for the picture and sound information disappears after about three seconds.

## Changing the on-screen display language

**1** Press SELECT until "LANGUAGE / اللغة : ENGLISH"appears on the screen.

**2** Press + or – to select " عربي ".

**Tip**

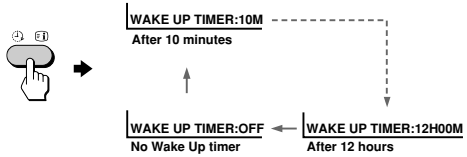
- You can also use SELECT and +/– on the TV to select the on-screen display language.

continued

## Setting the Wake Up timer

**1** Press ◴ until the desired period of time appears.

The Wake Up timer starts immediately after you have set it.




**2** Select the program number or video input you want to display when you wake up.

**3** Press I/⏻ or set the Sleep timer if you want the TV to turn off automatically.

The ◴ indicator on the TV lights up orange.

### To cancel the Wake Up timer

Press ◴ until "WAKE UP TIMER: OFF" appears or turn off the TV's main power.

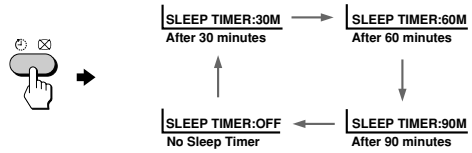
**Note**

- If no buttons or controls are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into the standby mode. To continue watching the TV, press any button or control on the TV or the remote.

## Setting the Sleep timer

Press ◴ until the desired period of time appears.

The Sleep timer starts immediately after you have set it.




### To cancel the Sleep timer

Press ◴ until "SLEEP TIMER: OFF" appears or turn the TV off.

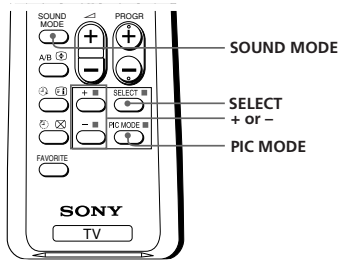




# Customizing the picture and sound

You can customize the picture and sound by selecting the picture and sound modes or by adjusting its settings.

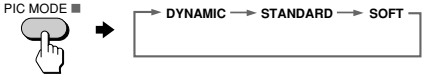
You can change the sound effect by selecting the surround mode.




## Selecting the picture and sound modes

### To select the picture mode

Press PIC MODE repeatedly until you get the desired picture mode.




| Select | To |
|---|---|
| "DYNAMIC" | view high contrast pictures. |
| "STANDARD" | view normal contrast pictures. |
| "SOFT" | view mild pictures. |

### To select the sound mode

Press SOUND MODE repeatedly until you get the desired sound mode.

| Select | To |
|---|---|
| "DYNAMIC" | listen to dynamic and clear sound that emphasizes the low and high sound. |
| "DRAMA" | listen to sound that emphasizes vocals and background music. |
| "SOFT" | listen to soft sound. |

continued





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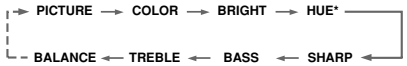
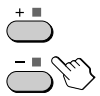
## Adjusting the picture and sound settings

**1** Press SELECT until the desired setting appears.

Each time you press SELECT, the setting item will change as follows:




**2** Press + or – to adjust the item.



**3** To adjust other items, repeat steps 1 to 2.

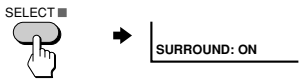
* "HUE" can be adjusted for the NTSC system only.

**Notes**

- When you select a picture or sound mode, the adjusted settings will be reset according to the selected mode.
- You can also use SELECT and ◿ +/– on the TV to adjust the picture and sound settings.

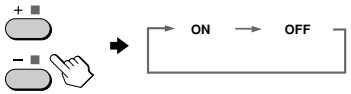
## Selecting the surround mode

**1** Press SELECT repeatedly until "SURROUND" appears.




**2** Press + or – to select "ON".

To turn off the surround mode, select "OFF" .

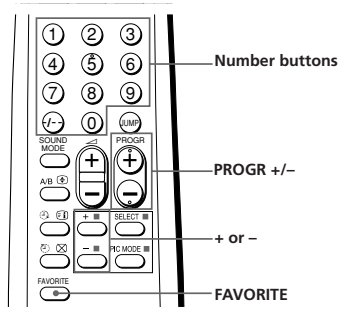






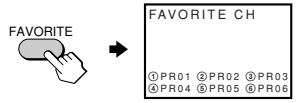

# Viewing your favorite channels

You can display six of your favorite channels for quick and easy selection. You can program the favorite channel setting as well.



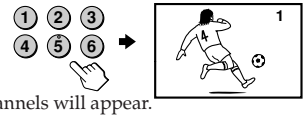

## Selecting a favorite channel

**1** Press FAVORITE.



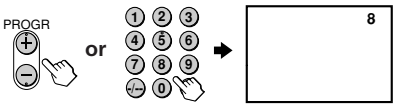

**2** Press the number button from 1 to 6 to select the desired favorite channel.

When you use the "FAVORITE CH" feature for the first time, six preset favorite channels will appear.

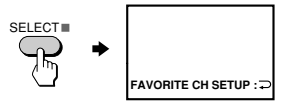



## Programming the favorite channel

**1** Press PROGR +/– or number buttons to select the program number you want to program (e.g., program number 8).




**2** Press SELECT until "FAVORITE CH SETUP" appears.




**3** Press + or – to select the favorite channel you want to program (e.g., ③).

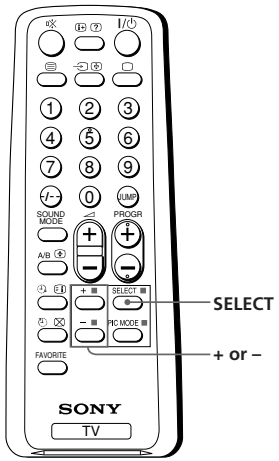
**4** Press SELECT.

The selected favorite channel (e.g., ③) turns red for about one second.

**5** To program other favorite channels, repeat steps 1 to 4.

# Blocking the channels (CHILD LOCK)

You can lock some program numbers to prevent children from watching certain channels, by using the buttons on the remote control.



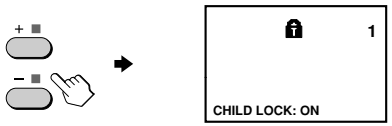

**1** Select the program number you want to lock.

**2** Press SELECT until "CHILD LOCK" appears on the screen.

**3** Press + or – to select "ON".

The 🔒 symbol appears on the screen.

To cancel, press + or – to select "OFF". The 🔒 symbol disappears from the screen.




**Note**

- If you preset a locked program number, that particular program number will be unlocked automatically.

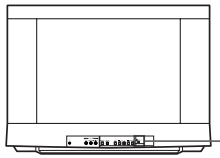


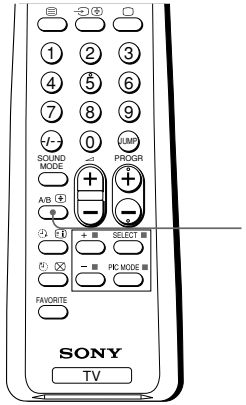


# Enjoying stereo or bilingual programs

**(KV-XA21M93 only)**

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems.

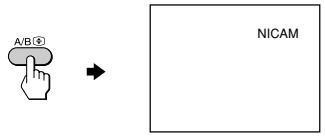



Press A/B repeatedly until you receive the sound you want.

The on-screen display changes to show the selected sound.

The ⊂⊃ indicator on the TV lights up red when receiving any stereo or bilingual program.




### When receiving a NICAM program

| Broadcasting | On-screen display (Selected sound) |
|---|---|
| NICAM stereo | NICAM (Stereo sound) → MONO (Regular sound) |
| NICAM bilingual | NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound) |
| NICAM monaural | NICAM MAIN (Main sound) → MONO (Regular sound) |

continued

*Enjoying stereo or bilingual programs (continued)*

### When receiving an A2 program

| Broadcasting | On-screen display (Selected sound) |
|---|---|
| A2 stereo | MONO (Regular sound) → STEREO (Stereo sound) |
| A2 bilingual | MAIN (Main sound) → SUB (Sub sound) |

**Notes**

- If the signal is very weak, the sound becomes monaural automatically.
- If the stereo sound is noisy when receiving a NICAM program, select "MONO". The sound becomes monaural, but the noise is reduced.

### If the sound is distorted when receiving a monaural program through the ⅂ (antenna input) terminal

Press A/B repeatedly until "MONO" appears on the screen.

To cancel the monaural sound setting, press A/B again until "AUTO" appears on the screen.

MONO → AUTO

**Notes**

- The "MONO" or "AUTO" setting is memorized for each program number.
- You cannot receive stereo broadcast signal when the TV is in the "MONO" setting. Normally set the TV to "AUTO".

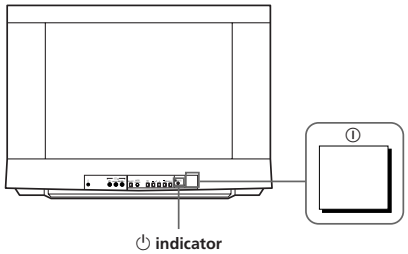




# Self-diagnosis function

Your TV is equipped with a self-diagnosis function. If there is a problem with your TV, the ⏻ indicator flashes red. The number of times the ⏻ indicator flashes indicates the possible causes.

Front of TV




**1** Check that the ⏻ indicator flashes red several times between three second intervals.

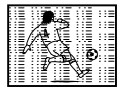
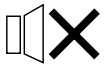
**2** Count the number of times the ⏻ indicator flashes.

**3** Press ⏻ (main power) to turn off your TV.

**4** Inform your nearest Sony service center about the number of times the ⏻ indicator flashes.
Be sure to note the model name and serial number located on the rear of your TV.

# Troubleshooting

If you find any problem while viewing your TV, please check the following guide.
If any problem persists, contact your Sony dealer.

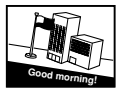
| Symptom | Possible cause | Solutions | Page |
|---|---|---|---|
| **Snowy picture**  **Noisy sound** | • Connection is loose or the cable is damaged. | • Check the antenna cable and connection on the TV, VCR and on the wall. | 4 |
| | • Channel presetting is inappropriate or incomplete. | • Press SELECT until "MANUAL PROGRAM" appears on the screen, then preset the channel again. | 10 |
| | • The antenna type is inappropriate. | • Check the antenna type (VHF/UHF). Contact a Sony dealer for advice. | – |
| | • The antenna direction is inappropriate. | • Adjust the antenna direction. Contact a Sony dealer for advice. | – |
| | • Signal transmission is low. | • Try using a booster. | – |
| **Distorted picture** **Noisy sound** | • Broadcast signals are too strong. | • Turn off or disconnect the booster if it is in use. | – |
| **Good picture** **Noisy sound** | • The TV system setting or channel presetting is inappropriate or incomplete. | • If the sound of all the channels are noisy, check the TV system (TV SYS) setting, then press AUTO PROGR to preset the channels again.<br>• If the sound of some channels are noisy, select the channel, then select the appropriate TV system (TV SYS). | 9<br>10 |
| | • The selected sound is inappropriate. | • If the sound of some channel are noisy, select the channel, then press A/B to select the main sound (KV-XA21M93 only). | 19 |
| **No picture** **No sound**  | • The power cord, antenna or VCR is not connected. | • Check the power cord, antenna and the VCR connections. | 4 |
| | • The TV is not turned on. | • Press I/⏻ (power).<br>• Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again. | 13<br>12 |



| Symptom | Possible cause | Solutions | Page |
|---|---|---|---|
| **Good picture** **No sound** | • The volume level is too low. | • Press 🔊 + to increase the volume level. | 12 |
| | • The sound is muted. | • Press 🔇 to cancel the muting. | 13 |
| | • Broadcast signal has a transmission problem. | • Press A/B until a better sound is heard (KV-XA21M93 only). | 19 |
| **Dotted lines or stripes** | • There is local interference from cars, neon signs, hair dryers, power generators, etc. | • Do not use a hair dryer or other equipment near the TV.<br>• Adjust the antenna direction for minimum interference. Contact a Sony dealer for advice. | –<br>– |
| **Double images or "ghosts"** | • Broadcast signals are reflected by nearby mountains or buildings. | • Use a highly directional antenna.<br>• Use the fine tuning (FINE) function. | –<br>11 |
| | • The antenna direction is inappropriate. | • Adjust the antenna direction. Contact a Sony dealer for advice. | – |
| | • Use of a booster is inappropriate. | • Turn off or disconnect the booster if it is in use. | – |
| **No color** | • The color level setting is too low. | • Press SELECT until "COLOR" appears on the screen, then press + or – to adjust the color level. | 16 |
| | • The color system setting is inappropriate. | • Press SELECT until "COLOR SYS " appears on the screen, then check the color system setting (usually set this to "AUTO"). | 11 |
| | • The antenna direction is inappropriate. | • Adjust the antenna direction. Contact a Sony dealer for advice. | – |
| **Abnormal color patches** | • The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV. | • Keep external speakers or other electrical equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again. | – |
| **TV cannot receive stereo broadcast signal (KV-XA21M93 only)** | • The stereo reception setting is inappropriate. | • Press A/B until "AUTO" appears on the screen. | 19 |

continued

### *Troubleshooting (continued)*

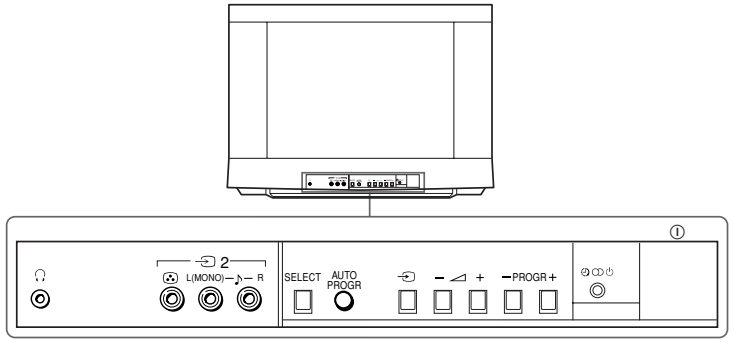
| Symptom | Possible cause | Solutions | Page |
|---|---|---|---|
| **Stereo broadcast sound switches on and off or is distorted.** **or** **The sound switches between monaural and stereo frequently. (KV-XA21M93 only)** | • Connection is loose or the cable is damaged. | • Check the antenna cable and connection on the TV, VCR and on the wall. | 4 |
| | • The antenna direction is inappropriate. | • Adjust the antenna direction. Contact a Sony dealer for advice. | – |
| | • Broadcast signal has a transmission problem. | • Press A/B until a better sound is heard. | 19 |
| **Picture slant**   | • The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV. | • Keep external speakers or other electrical equipment away from the TV. | – |
| | | • Press SELECT until "PIC ROTATION" appears on the screen, then press + or – to adjust the picture until it is optimal. | 13 |
| **Lines moving across the TV screen.** | • There is interference from external sources, e.g., heavy machineries, nearby broadcast station. | • Use the fine tuning (FINE) function. | 11 |
| **The ⏻ indicator on your TV flashes red a number of times between 3-second intervals.** | • Your TV may need service. | • Contact your nearest Sony service center. | 21 |
| **TV cabinet creaks.** | • Changes in room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction. | — | – |
| **A "boom" sound is heard when the TV is turned on.** | • The TV's demagnetizing function is working. This does not indicate a malfunction. | — | – |





# Overview of controls

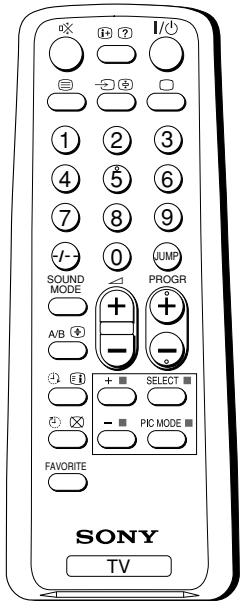
## TV front panel




| Button | Function | Page |
|---|---|---|
| AUTO PROGR | Preset channels automatically. | 5 |
| SELECT | Select the desired item. | 11 |
| PROGR +/– | Select program number. | 12 |
| ⏻ | Turn off completely or turn on the TV. | 12 |
| ◿ +/– | Adjust volume. | 12 |
| ⏻ | Standby indicator. | 12 |
| ⏎ | Select TV or video input. | 13 |
| 🕘 | Wake Up indicator. | 14 |
| ◯◯ (KV-XA21M93 only) | Stereo/bilingual indicator. | 19 |
| 🎧 | Headphone jack. | – |

continued

## Remote Control



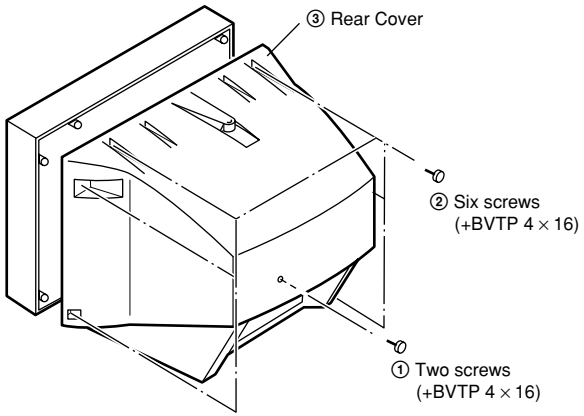

The names/symbols of buttons on the remote are indicated in different colors to represent the available functions.

| Label color | Button function |
|---|---|
| White | For general TV operations |
| Green | For Teletext operations |

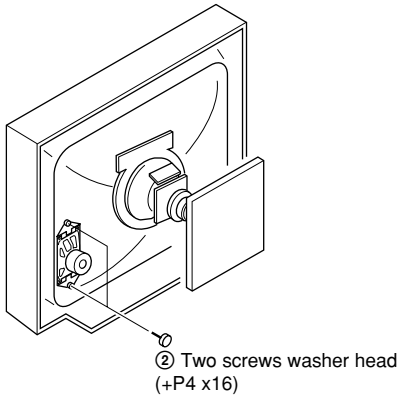
| Button | Function | Page |
|---|---|---|
| SELECT | Select the desired item. | 10 |
| +/– | Adjust value. | 10 |
| PROGR +/– | Select program number. | 12 |
| 0 – 9, -/-- | Input numbers. | 12 |
| +/– | Adjust volume. | 12 |
| I/⏻ | Turn off temporarily or turn on the TV. | 12 |
| ⇥ | Select TV or video input. | 13 |
| ▢ | Display the TV program. | 13 |
| 🔇 | Mute the sound. | 13 |
| ⓘ | Display on-screen information. | 13 |
| JUMP | Jump to previous program number. | 13 |
| Timer operations | | |
| 🕘 | Set TV to turn on automatically. | 14 |
| 🕘 | Set TV to turn off automatically. | 14 |
| PIC MODE | Select picture mode. | 15 |
| SOUND MODE | Select sound mode. | 15 |
| FAVORITE | Display favorite channels. | 17 |
| Stereo/bilingual operations (Not for this model) | | |
| A/B | Select stereo/bilingual mode. | 19 |
| Teletext operations (Not for this model) | | |
| ☰ | Display Teletext broadcast. | – |
| ☰ⓘ | Display Teletext service contents. | – |
| ⊟ | Stop Teletext display from scrolling. | – |
| ? | Reveal concealed information. | – |
| ⊕ | Enlarge the Teletext display. | – |
| ⊠ | Show TV screen while waiting for Teletext page. | – |
| ■ (red, green, yellow, blue) | Access a FASTEXT menu. | – |

# SECTION 2
# DISASSEMBLY

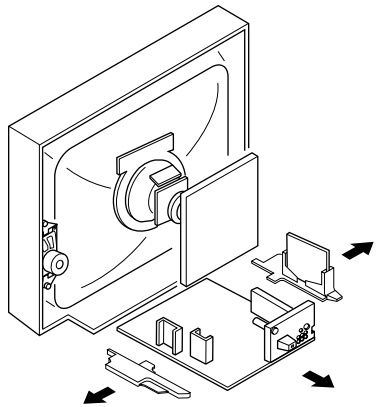
## 2-1. REAR COVER REMOVAL



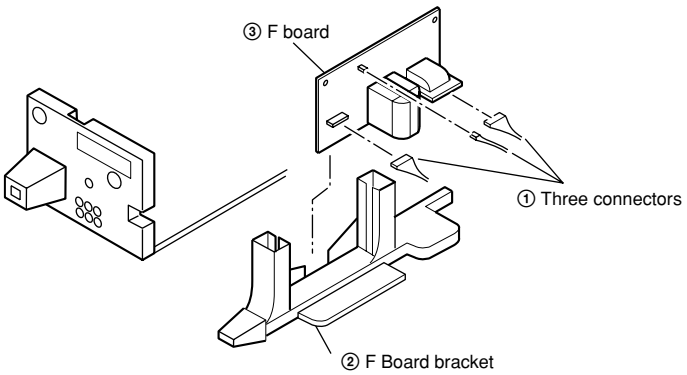

## 2-2. SPEAKER REMOVAL



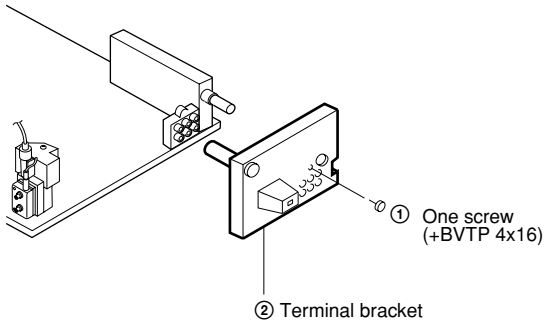

## 2-3. CHASSIS ASSY REMOVAL



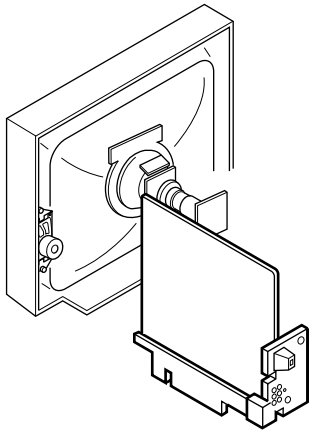
## 2-4. F BRACKET REMOVAL




## 2-5. TERMINAL BRACKET REMOVAL



## 2-6. SERVICE POSITION



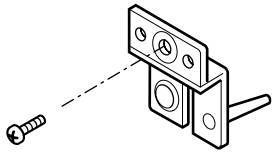
**Note:**

1. Undress necessary wires that creates tension while placing the chassis into Service Position.

## 2-7. REPLACEMENT OF PARTS

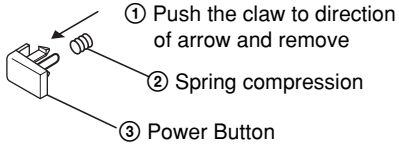
For replacement of light guide,unscrew them, exchange with new parts and fix them with screws respectively.

### 2-7-1. Replacement of Light Guide



One screw
(+BVTP 3 × 12)

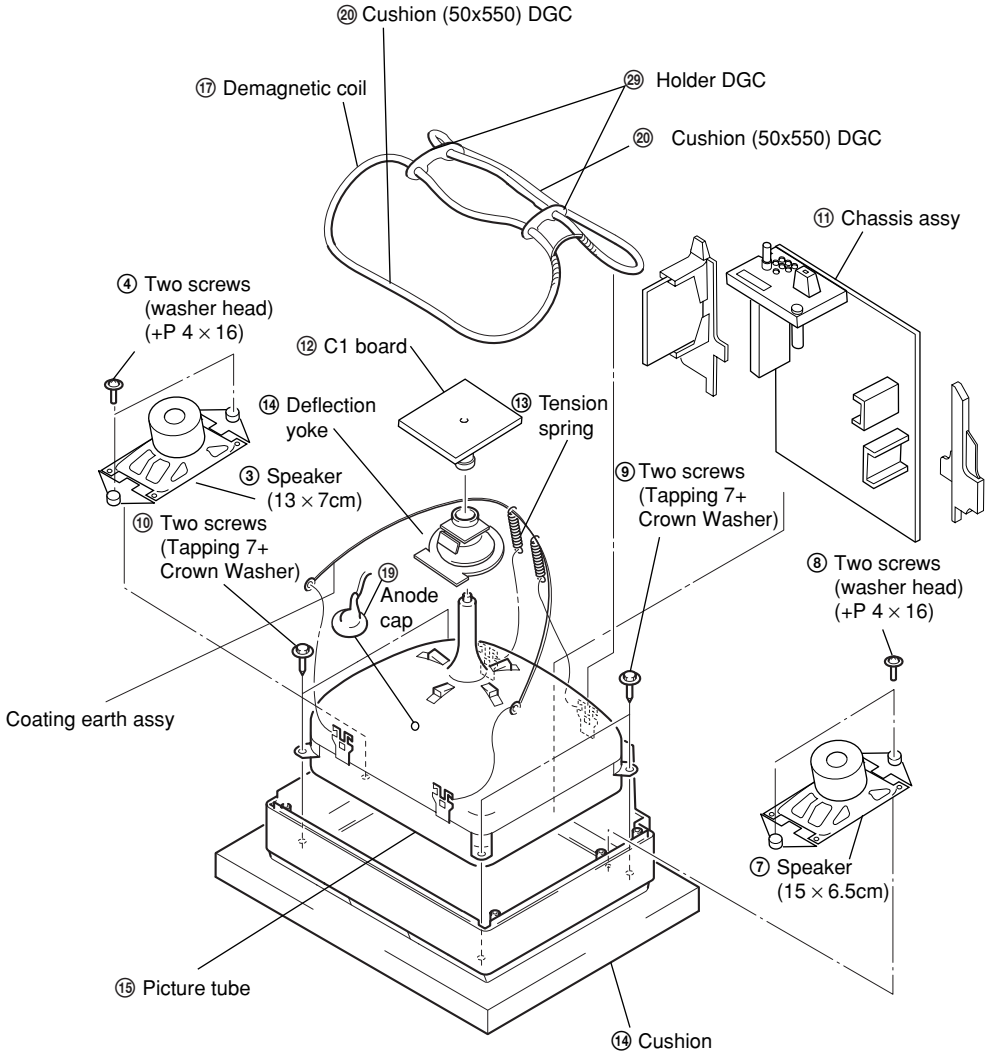
### 2-7-2. Replacement of Power Button



## 2-8. PICTURE TUBE REMOVAL

**Note:**

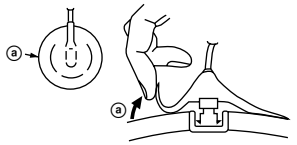
- Please remove necessary CRT support located on top left, top right, prior to removing the CRT.


⑳ Cushion (50x550) DGC
⑰ Demagnetic coil
㉙ Holder DGC
⑳ Cushion (50x550) DGC
⑪ Chassis assy
④ Two screws (washer head) (+P 4 × 16)
⑫ C1 board
⑭ Deflection yoke
⑬ Tension spring
③ Speaker (13 × 7cm)
⑨ Two screws (Tapping 7+ Crown Washer)
⑩ Two screws (Tapping 7+ Crown Washer)
⑲ Anode cap
⑧ Two screws (washer head) (+P 4 × 16)
Coating earth assy
⑦ Speaker (15 × 6.5cm)
⑮ Picture tube
⑭ Cushion

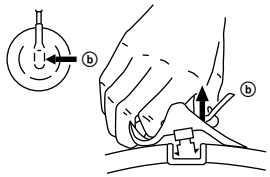
## • REMOVAL OF ANODE-CAP

NOTE : After removing the anode, short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT.

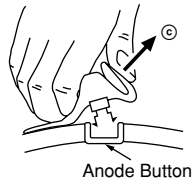
## • REMOVING PROCEDURES




① **Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.**



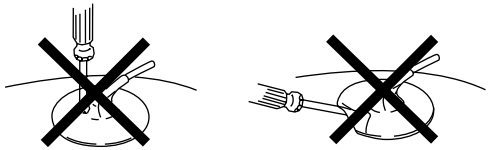

② **Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.**




③ **When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ.**

## • HOW TO HANDLE AN ANODE-CAP

① **Do not damage the surface of anode-caps with sharp shaped objects.**
② **Do not press the rubber too hard so as not to damage the inside of anode-cap. A metal fitting called the shatter-hook terminal is built into the rubber.**
③ **Do not turn the foot of rubber over too hard. The shatter-hook terminal will stick out or damage the rubber.**



# SECTION 3
# SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise noted:

PICTURE control ..... normal
BRIGHTNESS control ..... normal

Perform the adjustments in the following order :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

**Note :** Test Equipment Required.

1. Pattern Generator
2. Degausser
3. Oscilloscope

**Preparation :**

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

## 3-1. BEAM LANDING

1. Input a white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Set the pattern generator raster signal to a green raster.
3. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side. (See Figures 3-1 through 3-4.)
4. Move the deflection yoke forward and adjust so that the entire screen is green. (See Figure 3-1.)
5. Switch the raster signal to blue, then to red and verify the condition.
6. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws and DY spacers.
7. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Figure 3-4.)

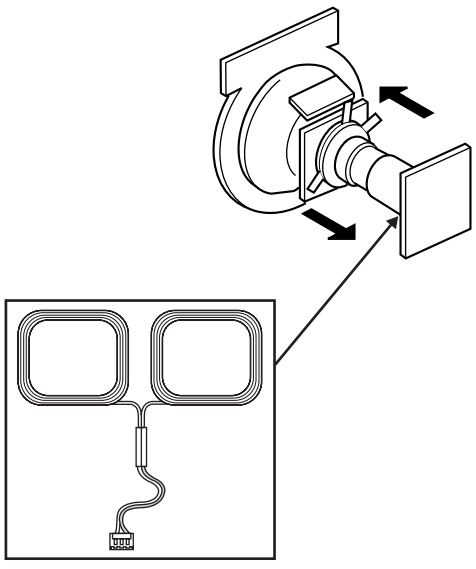


**Fig. 3-1**

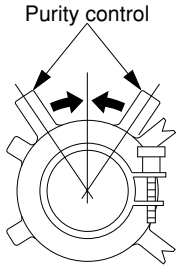



**Fig. 3-2**

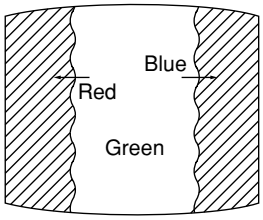



**Fig. 3-3**

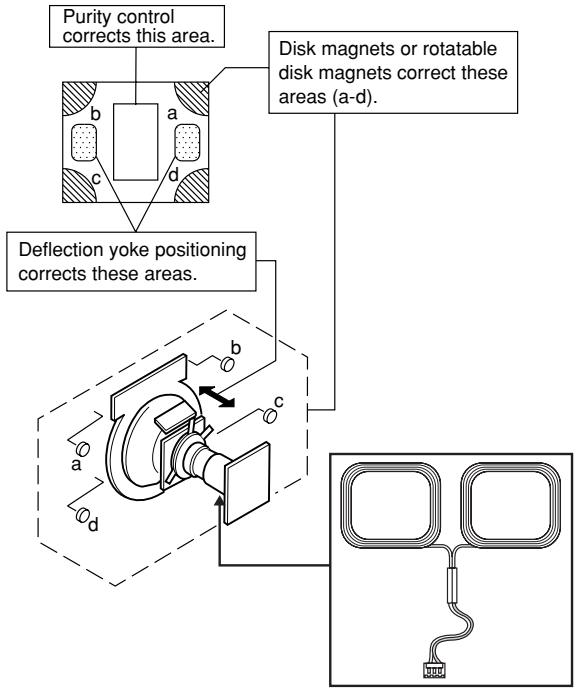


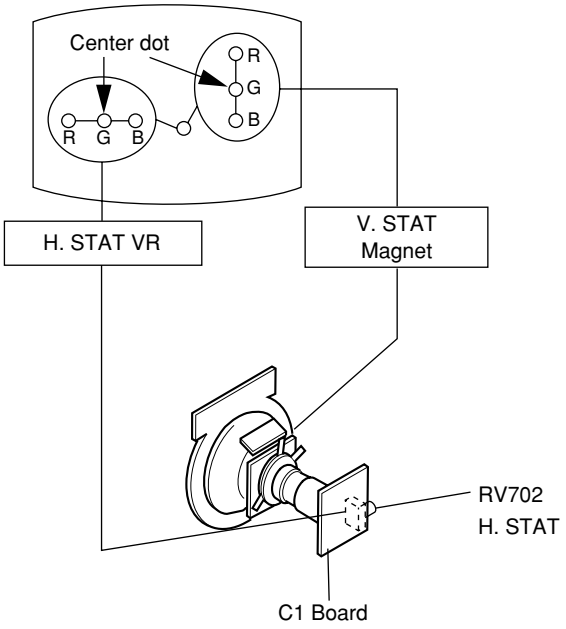

**Fig. 3-4**

## 3-2. CONVERGENCE

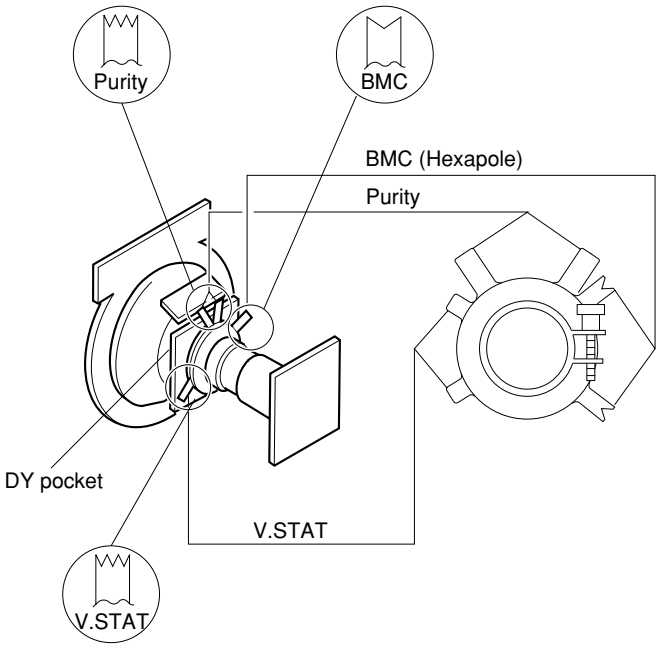
**Preparation :**

- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Receive dot/hatch signal.
- Pic mode: Personal (Pic 90%, Brightness 50%, Col 50 %, Hue 50%, Shp 50%).

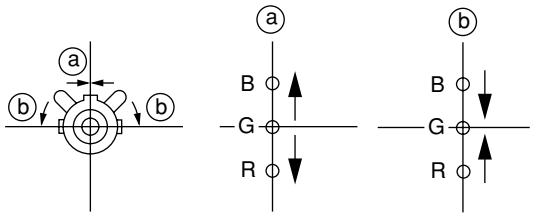
**(1) Horizontal and Vertical Static Convergence**



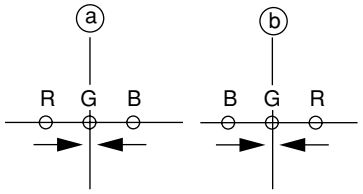

1. (Moving horizontally), adjust the H.STAT control so that the red, green and blue dots are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green and blue dots are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green and blue dots together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other, so be sure to perform adjustments while tracking.)



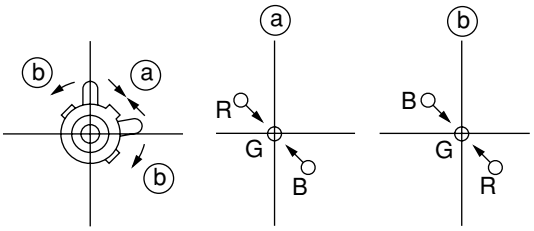

① V. STAT



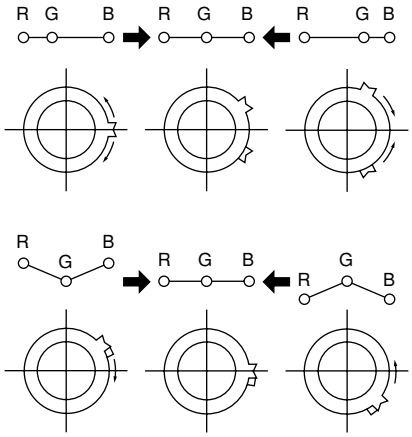

② H. STAT VR




③

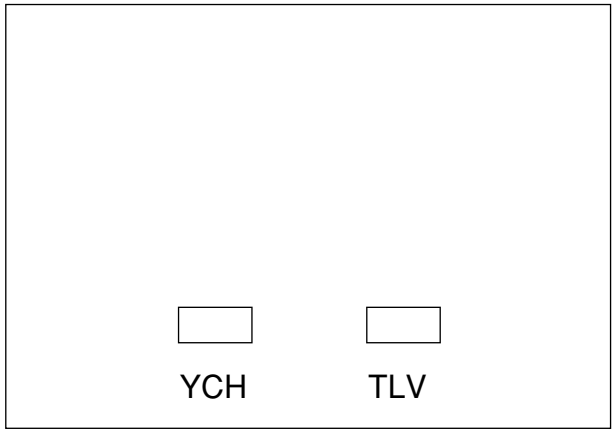


④ BMC (Hexapole) Magnet.
If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.

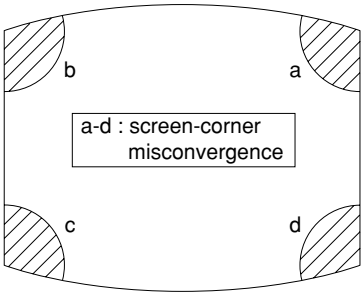



| | | | |
|---|---|---|---|
| YCH | Rotate | YCH | VOL on DY |
| TLV | Insert | TLH | Correction Plate to DY Pocket (Left or Right) |

ON DY:



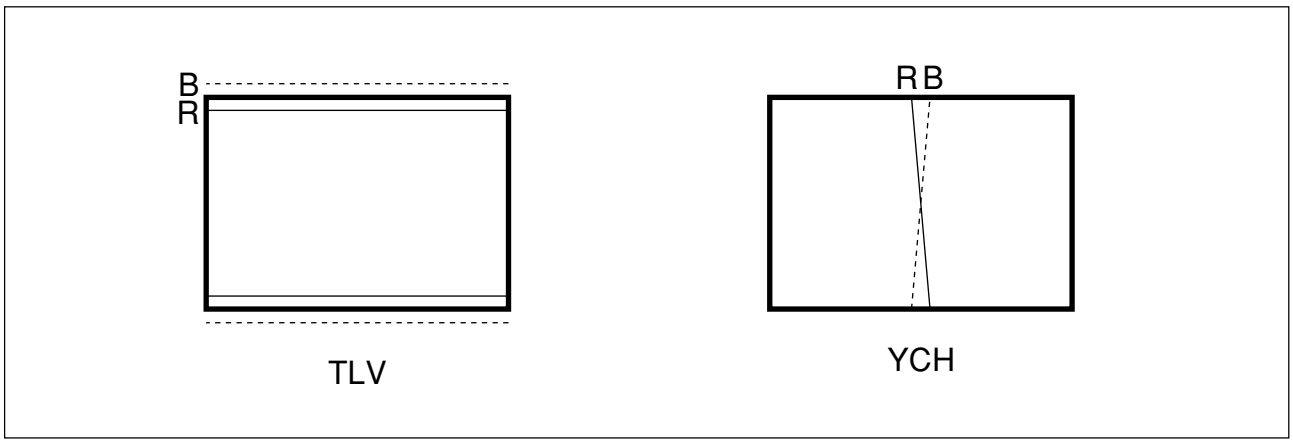

**(3) Screen-corner Convergence**



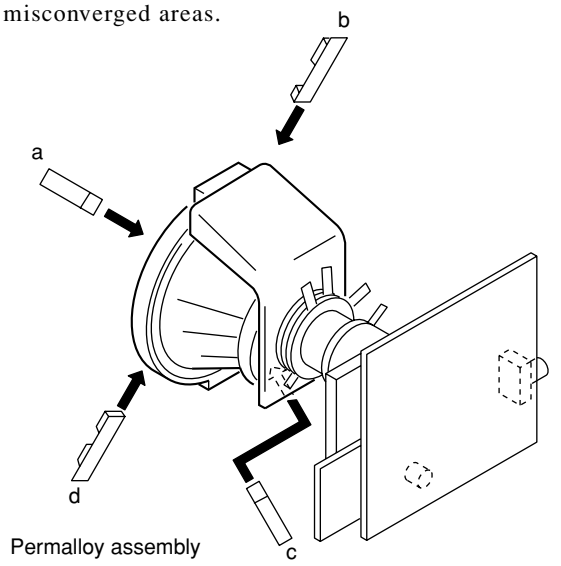

**(2) Dynamic Convergence Adjustment**

**Preparation:**

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence



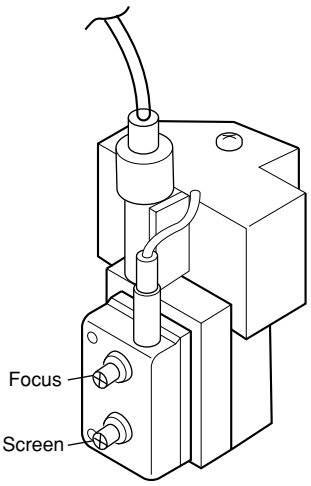
Fix a Permalloy assy corresponding to the misconverged areas.




## 3-3. FOCUS ADJUSTMENT

FOCUS adjustment should be completed before W/B adjustment.

1. Receive digital monoscope pattern.
2. Set "Picture Mode" to "DYNAMIC".
3. Adjust focus VR so that the center of screen becomes just focus.
4. Change the receiving signal to white pattern and blue back.
5. Confirm magenta ring is not noticeable. Incase magenta is very obvious, adjust focus VR to take balance of magenta ring and focus.

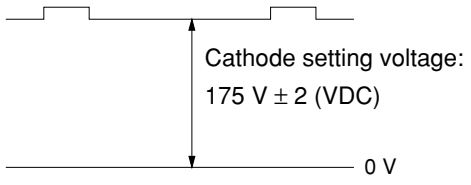



**FLYBACK TRANSFORMER (T503)**

## 3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

### 1. G2 (SCREEN) ADJUSTMENT

1) Set the PICTURE to normal.
2) Put to VIDEO input mode without signals.
3) Connect R, G and B of the C1 board cathode to the oscilloscope.
4) Adjust BRIGHTNESS to obtain the cathode voltage to the value below.
5) Adjust G2 (screen) on the FBT until picture shows the point before cut off.

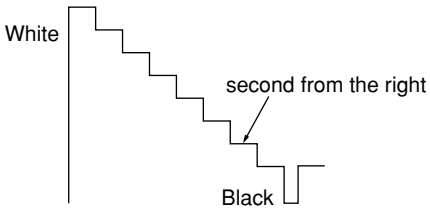



### 2. WHITE BALANCE ADJUSTMENT

1) Set to Service Mode (Refer Section 4-1: ADJUSTMENTS WITH COMMANDER).
2) Input white raster signal.
3) Set the PICTURE to minimum.
4) Select GCT (WHB 4) and BCT (WHB 5) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
5) Set the PICTURE to maximum.
6) Select GDR (WHB 1) and BDR (WHB 2) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
7) Write into the memory by pressing [MUTING] then [0].

### 3. SUB BRIGHT ADJUSTMENT

1) Set to service mode.
2) Input a staircase signal of black to white from the pattern generator.
3) BRIGHTNESS .... 50%.
   PICTURE ..... MINIMUM
4) Select SBR (WHB7) with [1] and [4], and adjust SBR (WHB7) level with [3] and [6] so that the second stripe from the right is dimly lit.



# SECTION 4
# CIRCUIT ADJUSTMENTS

## 4-1. ADJUSTMENTS WITH COMMANDER

Service adjustments to this model can be performed using the supplied Remote Commander RM-952

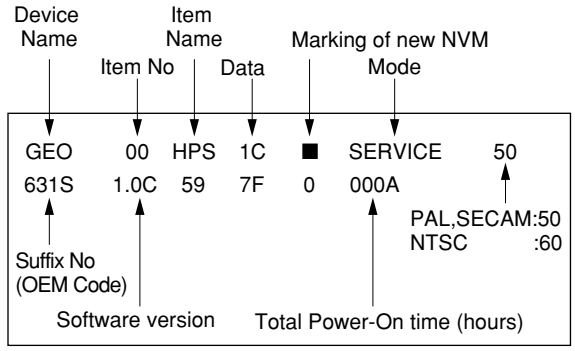
### a. ENTERING SERVICE MODE

With the unit on standby

→ DISPLAY → 5 → VOL (+) → POWER

This operation sequence puts the unit into service mode.

The screen display is :




### b. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press POWER button on the commander), then press POWER button again, hereupon it becomes TV mode.

### c. METHOD OF WRITE INTO MEMORY

1) Set to Service Mode.
2) Press 1 (UP) and 4 (DOWN), to select the adjustment.
4) Press MUTING button to indicate WRITE on the screen.
5) Press 0 button to write into memory.

### d. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again to confirm adjustments were made.

| | |
|---|---|
| 1, 4 | Select the adjustment item. |
| ↓ | |
| 3, 6 | Raise/lower the data value. |
| ↓ | |
| MUTING | Writes. |
| ↓ | |
| 0 | Executes the writing. |

| | |
|---|---|
| 7, 0 | All the data becomes the values in memory. |
| 8, 0 | All user control goes to the standard state. |
| 5, 0 | Service data initialization (Be sure not to use usually.) |
| 2, 0 | Write 50Hz adjustment data to 60Hz, or vice versa. |

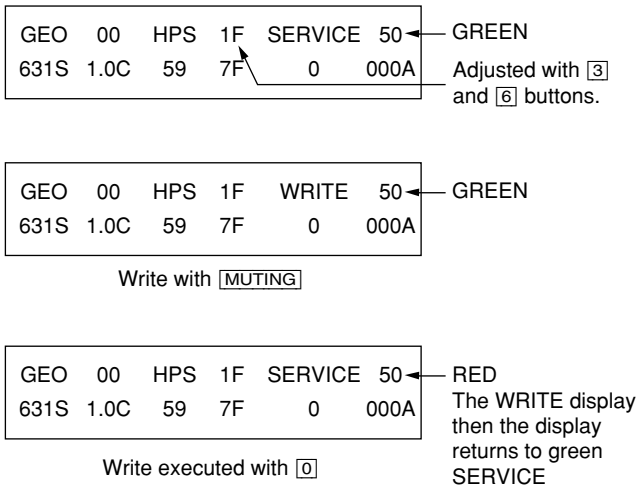
## 4-2. ADJUSTMENT METHOD

Item Number 00 of device GEO

This explanation uses H-Position as an example.

1. Select “GEO 00 HPS” with the 1 and 4 buttons.
2. Raise/lower the data with the 3 and 6 buttons.
3. Select the optimum state. (The standard is 1F for PAL reception.)
4. Write with the MUTING button. (The display changes to WRITE.)
5. Execute the writing with the 0 button. (The WRITE display will be changed to red color while excuting, and back to SERVICE.)

Example on screen display :-


GEO 00 HPS 1F SERVICE 50
631S 1.0C 59 7F 0 000A
GREEN
Adjusted with 3 and 6 buttons.
GEO 00 HPS 1F WRITE 50
631S 1.0C 59 7F 0 000A
GREEN
Write with MUTING
GEO 00 HPS 1F SERVICE 50
631S 1.0C 59 7F 0 000A
RED
The WRITE display then the display returns to green SERVICE
Write executed with 0

Use the same method for all Items. Use 1 and 4 to select the adjustment item, use 3 and 6 to adjust, write with MUTING, then execute the write with 0.

**Note** : 1. In WRITE, the data for all items are written into memory together.
2. For adjustment items that have different standard data between 50Hz or 60Hz, be sure to use the respective input signal after adjustment.

## Adjustment Item Table

| TVG | Functionality | | Init. | Range | Function | Table & Note | Register No. (Bit Range) | Device Name | NVM Address | | | RAM Address (Bit Range) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | | | | | | | Slave | Sub | Bit | |
| GEO | 00 | HPS | 7 | 3F | H POSITION | 50/60Hz | 12 (7-2) | CXA2159S(88H) | A0 | A1/AE | 7-2 | 86 (7-2) |
| | 01 | HSZ | 1F | 3F | H SIZE | 50/60Hz | 11 (7-2) | | A0 | A0/AD | 7-2 | 85 (7-2) |
| | 02 | PAP | 1F | 3F | PIN AMP | 50/60Hz | 13 (7-2) | | A0 | A2/AF | 7-2 | 87 (7-2) |
| | 03 | TLT | 7 | 0F | TRAPEZIUM | 50/60Hz | 15 (7-4) | | A0 | A4/B1 | 7-4 | 89 (7-4) |
| | 04 | VPS | 1F | 3F | V POSITION | 50/60Hz | 0F (7-2) | | A0 | 9E/AB | 7-2 | 83 (7-2) |
| | 05 | VSZ | 1F | 3F | V SIZE | 50/60Hz | 0E (7-2) | | A0 | 9D/AA | 7-2 | 82 (7-2) |
| | 06 | SCO | 7 | 0F | S CORRECTION | 50/60Hz | 10 (7-4) | | A0 | 9F/AC | 7-4 | 84 (7-4) |
| | 07 | VLN | 7 | 0F | V LINEARITY | 50/60Hz | 10 (3-0) | | A0 | 9F/AC | 3-0 | 84 (3-0) |
| | 08 | BOW | 7 | 0F | AFC BOW | 50/60Hz | 16 (7-4) | | A0 | A5/B2 | 7-4 | 8A (7-4) |
| | 09 | AGL | 7 | 0F | AFC ANGLE | 50/60Hz | 16 (3-0) | | A0 | A5/B2 | 3-0 | 8A (3-0) |
| | 0A | UPN | 1F | 3F | UPPER PIN | 50/60Hz | 14 (7-2) | | A0 | A3/B0 | 7-2 | 88 (7-2) |
| | 0B | LPN | 1F | 3F | LOWER PIN | 50/60Hz | 18 (7-2) | | A0 | A7/B4 | 7-2 | 8C (7-2) |
| | 0C | HBL | 0 | 1 | H BLANKING ON/OFF | | 18 (1) | | A0 | 9A | 1 | 6D (1) |
| | 0D | LBL | 2 | 0F | LEFT H BLANKING | 50/60Hz | 17 (7-4) | | A0 | A6/B3 | 7-4 | 8B (7-4) |
| | 0E | RBL | 0B | 0F | RIGHT H BLANKING | 50/60Hz | 17 (3-0) | | A0 | A6/B3 | 3-0 | 8B (3-0) |
| WHB | 00 | RDR | 25 | 3F | R DRIVE | DYNAMIC/others | 09 (7-2) | CXA2159S(88H) | A0 | C0/BA | 7-2 | 91 (7-2) |
| | 01 | GDR | 25 | 3F | G DRIVE | DYNAMIC/others | 0A (7-2) | | A0 | C1/BB | 7-2 | 92 (7-2) |
| | 02 | BDR | 25 | 3F | B DRIVE | DYNAMIC/others | 0B (7-2) | | A0 | C2/BC | 7-2 | 93 (7-2) |
| | 03 | RCT | 7 | 0F | R CUTOFF | SECAM/others | 07 (3-0) | | A0 | C3/BD | 3-0 | 95 (3-0) |
| | 04 | GCT | 7 | 0F | G CUTOFF | SECAM/others | 08 (7-4) | | A0 | C4/BE | 7-4 | 96 (7-4) |
| | 05 | BCT | 7 | 0F | B CUTOFF | SECAM/others | 08 (3-0) | | A0 | C4/BE | 3-0 | 96 (3-0) |
| | 06 | BMN | 15 | 1F | BRIGHTNESS MINIMUM DATA | | | | A0 | 22 | 6-2 | 99 (6-2) |
| | 07 | SBR | 1F | 3F | SUB BRIGHTNESS CONTROL | | 06 (7-2) | | A0 | 23 | 7-2 | 9A (7-2) |
| | 08 | APB | 0 | 3 | SUB BRIGHT CTL SW FOR PNC #3 | | | | A0 | 23 | 1-0 | 9A (1-0) |
| SAJ | 00 | PMX | 33 | 3F | PICTURE MAXIMUM DATA | | | CXA2159S(88H) | A0 | 21 | 7-2 | 98 (7-2) |
| | 01 | SHU | 8 | 0F | SUB HUE CONTROL | TV/Video | | | A0 | 24/38 | 5-2 | 9B (5-2) |
| | 02 | SSH | 3 | 0F | SUB SHARPNESS CONTROL | TV/Video | | | A0 | 25/36 | 7-4 | 9C (7-4) |
| | 03 | SCL | 1F | 3F | SUB COLOR CONTROL | NTSC/others | | | A0 | 37/26 | 7-2 | 9D (7-2) |
| VP | 00 | EHT | 4 | 0F | EHT COMP | 50/60Hz | 15 (3-0) | CXA2159S(88H) | A0 | A4/B1 | 3-0 | 89 (3-0) |
| | 01 | GMA | 2 | 03 | GAMMA CORRECTION | Refer NVM Map A4 | 0B (1-0) | | A4 | 66/67/68/69 | 1-0 | 1A4 (1-0) |
| | 02 | APG | 0 | 1 | GAMMA CTL FOR PNC #3 | | | | A4 | 66/67/68/69 | 2 | 1A4 (2) |
| | 03 | YDL | 6 | 0F | Y DELAY | PAL/SECAM/NTSC | 0C (3-0) | | A0 | B7/B9/B8 | 3-0 | 8E (3-0) |
| | 04 | SST | 1 | 03 | SECAM ID START POSITION | SECAM/PAL | 1B (1-0) | | A4 | 6A/6C | 5-4 | 1A6 (1-0) |
| | 05 | SSP | 1 | 03 | SECAM ID STOP POSITION | SECAM/PAL | 1B (3-2) | | A4 | 6A/6C | 7-6 | 1A6 (3-2) |
| | 06 | RLM | 0 | 3 | RGB LIMIT | | | | A0 | 83 | 1-0 | 56 (1-0) |

## Adjustment Item Table

| TVG | Functionality | | Init. | Range | Function | Table & Note | Register No. (Bit Range) | Device Name | NVM Address | | | RAM Address (Bit Range) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | | | | | | | Slave | Sub | Bit | |
| VP | 07 | SLV | 2 | 03 | SECAM ID LEVEL | SECAM/PAL | 1C (1-0) | CXA2159S(88H) | A4 | 6B/6D | 1-0 | 1A7 (1-0) |
| | 08 | SBF | 22 | 3F | SECAM BELL FO | SECAM/PAL | 1C (7-2) | | A4 | 6B/6D | 7-2 | 1A7 (7-2) |
| | 09 | DYC | 1 | 1 | DYNAMIC COLOR ON/OFF | | 0A (1) | | A0 | 8C | 1 | 5F (1) |
| | 0A | ABL | 1 | 1 | ABL MODE SWITCHING | STANDARD Always 0 | 09 (1) | | A0 | 8B | 1 | 5E (1) |
| | 0B | VTH | 1 | 1 | ABL DETECTION VTH SWITCHING | | 09 (0) | | A0 | 8B | 0 | 5E (0) |
| | 0C | SFO | 1 | 1 | FO SWITCHING FOR SHARPNESS | NTSC/others | 05 (1) | | A4 | 5C/59 | 1 | 199 (1) |
| | 0D | DCX | 1 | 1 | DC TRANS. RATIO SWITCHING | | 06 (1) | | A0 | 88 | 1 | 5B (1) |
| | 0E | SHT | 1 | 1 | PRE-/OVERSHOOT RATIO SWITCH | NTSC/others | 06 (0) | | A4 | 5D/5A | 0 | 19A (0) |
| | 0F | HDW | 0 | 1 | H DRIVE PULSE WIDTH SWITCH | | 00 (6) | | A0 | 80 | 6 | 53 (6) |
| | 10 | AFC | 1 | 03 | AFC GAIN CONTROL | TV/Video/Text | 0F (1-0) | | A0 | 28/29/2A | 1-0 | 8F (1-0) |
| | 11 | HOS | 7 | 0F | H OSCILLATION | | 0C (7-4) | | A0 | 8E | 7-4 | 61 (7-4) |
| | 12 | HSS | 0 | 1 | SLICE LEVEL OF H SYNC SEP. | | 0D (1) | | A0 | 8F | 1 | 62 (1) |
| | 13 | VSS | 0 | 1 | SLICE LEVEL OF V SYNC SEP. | | 0D (0) | | A0 | 8F | 0 | 62 (0) |
| | 14 | HMS | 1 | 1 | MACRO VISION C/M OFF/ON | 50/60Hz | 0E (0) | | A0 | 9D/AA | 0 | 82 (0) |
| | 15 | YUV | 0 | 1 | YUV SWITCH CONTROL | | 01 (0) | | A0 | 80 | 2 | 53 (0) |
| | 16 | CDV | 1 | 3 | CD MODE FOR VIDEO | video only | 0D (5-4) | | A0 | 2B | 5-4 | 1A2 (5-4) |
| | 17 | RON | 1 | 1 | R ON | not memorized | 01 (3) | | A0 | 81 | 2 | 54 (2) |
| | 18 | GON | 1 | 1 | G ON | not memorized | 01 (2) | | A0 | 81 | 1 | 54 (1) |
| | 19 | BON | 1 | 1 | B ON | not memorized | 01 (1) | | A0 | 81 | 0 | 54 (0) |
| | 1A | PON | 1 | 1 | P ON | not memorized | 00 (7) | | A0 | 80 | 7 | 53 (7) |
| | 1B | AXN | 1 | 1 | AXIS SW | NTSC/others (only for DYNA) | | | A0 | 37/26 | 0 | 9D (0) |
| | 1C | RSL | 0 | 1 | RGB SEL | | 0A (0) | | A0 | 8C | 0 | 5F (0) |
| | 1D | VBW | 1 | 3 | VBLKW | | | | A0 | 96 | 1-0 | 69 (1-0) |
| | 1E | RFP | 0 | 1 | REFP | | 12 (0) | | A0 | 94 | 0 | 67 (0) |
| | 1F | JMP | 0 | 1 | JUMP | | | | A0 | 9A | 0 | 6D (0) |
| | 20 | VMC | 3 | 3 | VM OFF | | 13 (0) | | A0 | 83 | 3-2 | 56 (3-2) |
| AP | 00 | INF | 5 | 3F | INPUT ATTENUATION WHEN SURROUND OFF | | 0 (5-0) [5-0] | TDA7429(80H) | A0 | 73 | 5-0 | 1A0 (5-0) |
| | 01 | INS | 0A | 3F | INPUT ATTENUATION WHEN SURROUND ON (XG-ONLY) | | 0 (5-0) [N/A] | TDA7442(80H) | A0 | 74 | 5-0 | 1A1 (5-0) |
| | 02 | SEF | 0 | 0F | SURROUND EFFECT CONTROL (XA-ONLY) | | 1 (N/A) [6-3] | | A0 | 76 | 6-3 | 79 (6-3) |
| | 03 | PH1 | 3 | 3 | PHASE 1 REGISTER SELECTION | | 2 (1-0) [1-0] | | A0 | 77 | 1-0 | 7A (1-0) |
| | 04 | PH2 | 0 | 3 | PHASE 2 REGISTER SELECTION (XG-ONLY) | | 2 (3-2) [N/A] | | A0 | 77 | 3-2 | 7A (3-2) |
| | 05 | PH3 | 0 | 3 | PHASE 3 REGISTER SELECTION (XG-ONLY) | | 2 (5-4) [N/A] | | A0 | 77 | 5-4 | 7A (5-4) |
| | 06 | PH4 | 0 | 3 | PHASE 4 REGISTER SELECTION (XG-ONLY) | | 2 (7-6) [N/A] | | A0 | 77 | 7-6 | 7A (7-6) |
| | 07 | BCS | 2 | 3 | BASS CENTER SHIFT | | 3 (3-0) [3-0] | | A0 | 57 | 1-0 | 1BC (1-0) |
| | 08 | TCS | 2 | 3 | TREBLE CENTER SHIFT | | 4 (3-0) [7-0] | | A0 | 58 | 1-0 | 1BD (1-0) |
| | 09 | TRF | 2 | 3 | RF TREBLE OFFSET | | 4 (3-0) [7-0] | | A0 | 58 | 5-4 | 1BD (5-4) |
| MSP | 00 | WST | 15 | FF | W/G STEREO THRESHOLD | | | MSP3415D(84H) | A0 | 60 | 7-0 | 157 (7-0) |
| | 01 | WBT | EA | FF | W/G BILINGUAL THRESHOLD | | | | A0 | 61 | 7-0 | 158 (7-0) |
| | 02 | WLL | 5 | FF | W/G MONAURAL THRESHOLD | | | | A0 | 62 | 7-0 | 159 (7-0) |
| | 03 | WAC | 0 | 0F | W/G AGREEMENT COUNT | | | | A0 | 63 | 3-0 | 15A (3-0) |
| | 04 | WDL | 30 | FF | W/G SEARCH DELAY | | | | A0 | 64 | 7-0 | 15B (7-0) |
| | 05 | NDL | 20 | FF | NICAM SEARCH DELAY | | | | A0 | 65 | 7-0 | 15C (7-0) |
| | 06 | SDL | 10 | FF | STEREO STATUS READ DELAY | | | | A0 | 66 | 7-0 | 15D (7-0) |

## Adjustment Item Table

| TVG | Functionality | | Init. | Range | Function | Table & Note | Register No. (Bit range) | Device Name | NVM Address | | | RAM Address (Bit range) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | | | | | | | Slave | Sub | Bit | |
| | 07 | AGC | 1 | 1 | AGC SWITCH AUTO/CONSTANT | | BB (7) | | A0 | 68 | 7 | 108 (7) |
| | 08 | REL | 28 | 3F | AGC GAIN AT CONSTANT MODE | | BB (6-1) | | A0 | 68 | 6-1 | 108 (6-1) |
| | 09 | CRM | 0 | 1 | CARRIER MUTING ON/OFF | | BB (9) | | A0 | 67 | 1 | 107 (1) |
| | 0A | ACO | 1 | 1 | AUDIO CLOCK OUT ON/OFF | | 83 (5) | | A0 | 69 | 5 | 10C (5) |
| | 0B | FP | 1B | 7F | FM PRESCALE FOR NON-M SYSTEM | | 0E (7-0) | | A0 | 6A | 6-0 | 16C (6-0) |
| | 0C | FPM | 32 | 7F | FM PRESCALE FOR M SYSTEM | | 0E (7-0) | | A0 | 6B | 6-0 | 16D (6-0) |
| | 0D | FH | 36 | 7F | FM PRESCALE FOR HDEV | | 0E (7-0) | | A0 | 6C | 6-0 | 16E (6-0) |
| | 0E | FHM | 65 | 7F | FM PRESCALE FOR HDEV AND M | | 0E (7-0) | | A0 | 6D | 6-0 | 16F (6-0) |
| | 0F | WGP | 2A | 7F | W/G PRESCALE | | 0E (7-0) | | A0 | 6E | 6-0 | 170 (6-0) |
| | 10 | NIP | 6D | 7F | NICAM PRESCALE | | 10 (7-0) | | A0 | 6F | 6-0 | 138 (6-0) |
| | 11 | ERR | 50 | FF | AUTO FM SWITCH THRESHOLD | | 21 (10-3) | | A0 | 70 | 7-0 | 166 (7-0) |
| | 12 | VOL | 6D | FF | SPEAKER GAIN 7000H TO 7FF0H | | 0000 (15-4) | | A4 | 62 | 7-0 | 1BB (7-0) |
| TXT | 00 | TXH | 0 | 3 | TELETEXT HORIZONTAL POSITION | | | SAA5261(58H) | A4 | 55 | 1-0 | 18D (1-0) |
| | 01 | TXV | 0 | 3 | TELETEXT VERTICAL POSITION | | | | A4 | 55 | 5-4 | 18D (6-4) |
| OPM | 00 | OSH | 0A | 3F | OSD H POSITION | Option-Misc | | | A0 | 27 | 7-2 | A7 (7-2) |
| | 01 | COM | 1 | 03 | COMB SELECTION | | | | A0 | 50 | 7-6 | A0 (7-6) |
| | 02 | APC | 1 | 1 | APC SWITCH | | | | A0 | 4F | 5 | 9F (5) |
| | 03 | TSY | 0 | 03 | TV SYS AT AUTO TV SYS | | | | A0 | 4F | 4-3 | 9F (4-3) |
| | 04 | MUT | 0 | 1 | NO SIGNAL MUTE | | | | A0 | 4F | 0 | 9F (0) |
| | 05 | AFM | 0 | 1 | AUTO FM SWITCH | | | | A0 | 4F | 1 | 9F (1) |
| | 06 | RFB | 0 | 3 | C-BPF CONTROL | | | | A0 | 50 | 5-4 | A0 (5-4) |
| | 07 | TVO | 0 | 7 | TILT TO V-ANGLE OFFSET | | | | A0 | 50 | 2-0 | A0 (2-0) |
| | 08 | DBL | 0 | 1 | DISABLE BLUEBACK FUNCTION | | | | A0 | 4F | 2 | 9F (2) |
| OPB | 00 | OP1 | FF | FF | OPTIONAL BITS 1 (see below) | Option-Bits. | | | A0 | 2D | 7-0 | 49 |
| | 01 | OP2 | 62 | FF | OPTIONAL BITS 2 (see below) | | | | A0 | 2E | 7-0 | 4A |
| | 02 | OP3 | B1 | FF | OPTIONAL BITS 3 (see below) | | | | A0 | 2F | 7-0 | 4B |
| | 03 | OP4 | 2 | FF | OPTIONAL BITS 4 (see below) | | | | A0 | 30 | 7-0 | 4C |

**NOTE**

- shaded items are fixed data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes and stored respectively in the memory. In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

**ITEM INFORMATION**

**No. OPB0 OP1**

| Item | XTAL 4.43 | XTAL 3.58 | SECAM | 2nd. Lang | B/G | I | D/K | M |
|---|---|---|---|---|---|---|---|---|
| **KV-XA21M80** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

**NOTE:** When Bit 7, 6 & 5 = 000, Only PAL color system is selected.
When Bit 7 is selected, Auto, PAL& NTSC 4.43 Color system is enable
When Option is single color system, Color system cannot be changed & "AUTO" will not be displayed.

**No. OPB1 OP2**

| Item | TOP | NICAM | HDEV | Thai Bil | Dis Fav. | DVD Input | AV Input | |
|---|---|---|---|---|---|---|---|---|
| **KV-XA21M80** | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |

| | |
|---|---|
| AV Input | 00 = no AV Input 01 = 1 AV Input |
| | 10 = 2 AV Input 11 = 3 AV Input |
| DVD Input | Effective only when "AV Input" is set to 3 AV Input |
| Dis Fav. | Disable Favorite Channel (Effective For XF-L (21" & 14") Models Only) |

**No. OPB2 OP3**

| Item | PIC Rotate*1 | 2199 Curve*1 | Auto PIC | Auto TV sys | US ST | AV Mono*1 | 11 KEY | Colour SW*2 &*1 |
|---|---|---|---|---|---|---|---|---|
| **KV-XA21M80** | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |

| | | |
|---|---|---|
| PIC Rotate*1 | Picture Rotation feature Switch | 0 = disabled, 1 = enabled |
| 2199 Curve*1 | 2199 Volume Curve Selection | 0 = Others, 1 = 2199 Volume Curve. |
| Auto PIC | Auto Picture Improvement | 0 = inactive 1 = active |
| A-TVsys | Auto TV System in Auto Program | 0 = disabled, 1 = enabled |
| US ST | USA Stereo | 0 = disabled, 1 = enabled |
| AV MONO*1 | AV Mono models | 0 = Stereo, 1 = Mono (No Balance & Surround selection) |
| 11 Key | Front Key Selection | 0 = 7 key model, 1 = 11 key model |
| Color SW*2 & *1 | Color Data Selection in Dynamic Mode | 0 = 65 (No PIP), 1 = 57 (PIP) |

Note: *1 - For KV-XA21/XG25 models only
*2 - For KV-XA34/29/25 models only

**No. OPB3 OP4**

| Item | (unused) | (unused) | (unused) | (unused) | (unused) | (unused) | AP_XG*1 | (unused) |
|---|---|---|---|---|---|---|---|---|
| **KV-XA21M80** | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

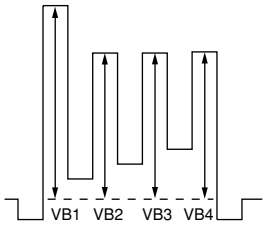
| | | |
|---|---|---|
| AP_XG*1 | To select the XG AP (board B6) | 0: No; 1 = Yes |

Note: *1 - For KV-XA21/XG25 models only

## 4-3. PICTURE QUALITY ADJUSTMENTS

### SUB COLOR ADJUSTMENT

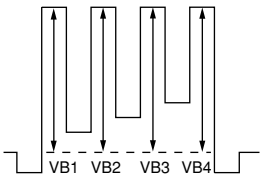
1. Select Video.
2. Input a PAL color-bar.
3. Set to the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
5. Set to Service Mode and select SAJ 'SCL' with [1] and [4] of the commander then adjust to VB2=VB3=VB4 with [3] and [6].
6. Press [MUTING] → [0] of the commander to write the data.
7. Adjust SAJ 'SCL' as step 3 to 5 when receiving NTSC color-bar.
8. Select the 'Wide' mode, write the 'same data-3 steps' for both PAL and NTSC input.




VB2 = VB3 = VB4

### SUB HUE ADJUSTMENT

1. Select Video.
2. Input a NTSC 3.58 color-bar, into Video.
3. Set the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
5. Select SAJ O1 "SHU" with [1] and [4] of the commander by setting to Service Mode and adjust to VB1=VB2=VB3=VB4 with [3] and [6].




VB1 = VB2 = VB3 = VB4

6. Press [MUTING] → [0] of the commander to write the data.
7. Adjust SAJ O1 "SHU" as step 3 to 6 when receiving TV mode.

## 4-4. DEFLECTION ADJUSTMENT

**NORMAL MODE (50Hz)**

1. Set to Service Mode.
2. Using the [1] and [4] button, select category GEO (Service Mode).
3. Raise/lower the data using the [3] and [6] buttons.
   Select and adjust the following items to obtain optimum image.

Service Item

| | | | |
|---|---|---|---|
| GEO : | 00 | HPS | H POSITION |
| | 01 | HSZ | H SIZE |
| | 02 | PAP | PIN AMP |
| | 03 | TLT | TRAPEZIUM |
| | 04 | VPS | V POSITION |
| | 05 | VSZ | V SIZE |
| | 06 | SCO | S CORRECTION |
| | 07 | VLN | V LINEARITY |
| | 08 | BOW | AFC BOW |
| | 09 | AGL | AFC ANGLE |
| | 0A | UPN | UPPER CORNER PIN |
| | 0B | LPN | LOWER CORNER PIN |

**NORMAL MODE (60Hz)**

11. Input 525/60Hz signal.
12. Using the [1] and [4] buttons select category GEO (Service Mode).
13. Select and adjust the following items to obtain obtimum image.
    Raise/lower the data with the [3] and [6] buttons.

Service Item

| | | | |
|---|---|---|---|
| GEO : | 00 | HPS | H POSITION |
| | 01 | HSZ | H SIZE |
| | 02 | PAP | PIN AMP |
| | 03 | TLT | TRAPEZIUM |
| | 04 | VPS | V POSITION |
| | 05 | VSZ | V SIZE |
| | 06 | SCO | S CORRECTION |
| | 07 | VLN | V LINEARITY |
| | 08 | BOW | AFC BOW |
| | 09 | AGL | AFC ANGLE |
| | 0A | UPN | UPPER CORNER PIN |
| | 0B | LPN | LOWER CORNER PIN |

Note:

For Deflection Adjustment, set PICTURE MODE to "SOFT".

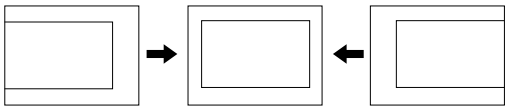
## 4-5. A BOARD ADJUSTMENT AFTER IC003 (MEMORY) REPLACEMENT

1. Enter to Service Mode.
2. Press commander buttons [5] and [0] (Data Initialize), and [2] and [0] (Data Copy) to initialize the data.
3. Call each item number and check if the respective screen shows the normal picture.
   In cases where items are not well adjusted, rectify the fine adjustment.
   Write the data per each item number ([MUTING] +[0]).
4. Select item numbers "OPB00" (OP1), "OPB01" (OP2), "OPB 02" (OP3) and "OPB 03" (OP4) respectively set the bit per model with command buttons [3] and [6].
5. Press commander buttons [8] and [0] (Test Normal) to return to the data that was set on the shipment from the factory.
   (This will also cancel Service Mode.)

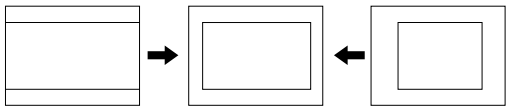
## 4-6. PICTURE DISTORTION ADJUSTMENT

Item Number 00 – 0B

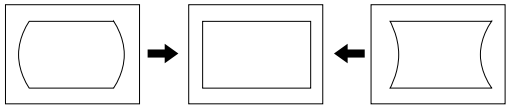
GEO 0 HPS (H POSITION)



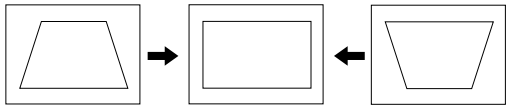
GEO 1 HSZ (H SIZE)



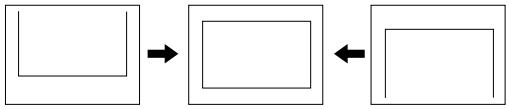
GEO 2 PAP (PIN AMP)



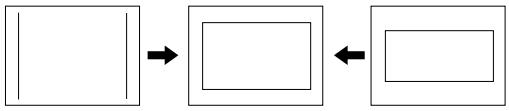
GEO 3 TLT (TRAPEZIUM)



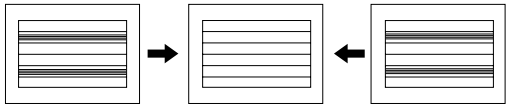
GEO 4 VPS (V POSITION)



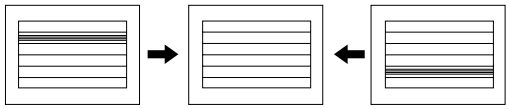
GEO 5 VSZ (V SIZE)



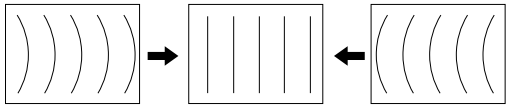
GEO 6 SCO (VERTICAL S-Correction)



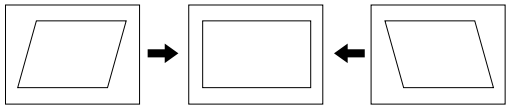
GEO 7 VLN (V LINEARITY)



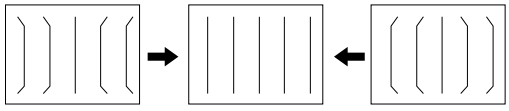
GEO 8 BOW (AFC.BOW)



GEO 9 AGL (AFC.ANGLE)

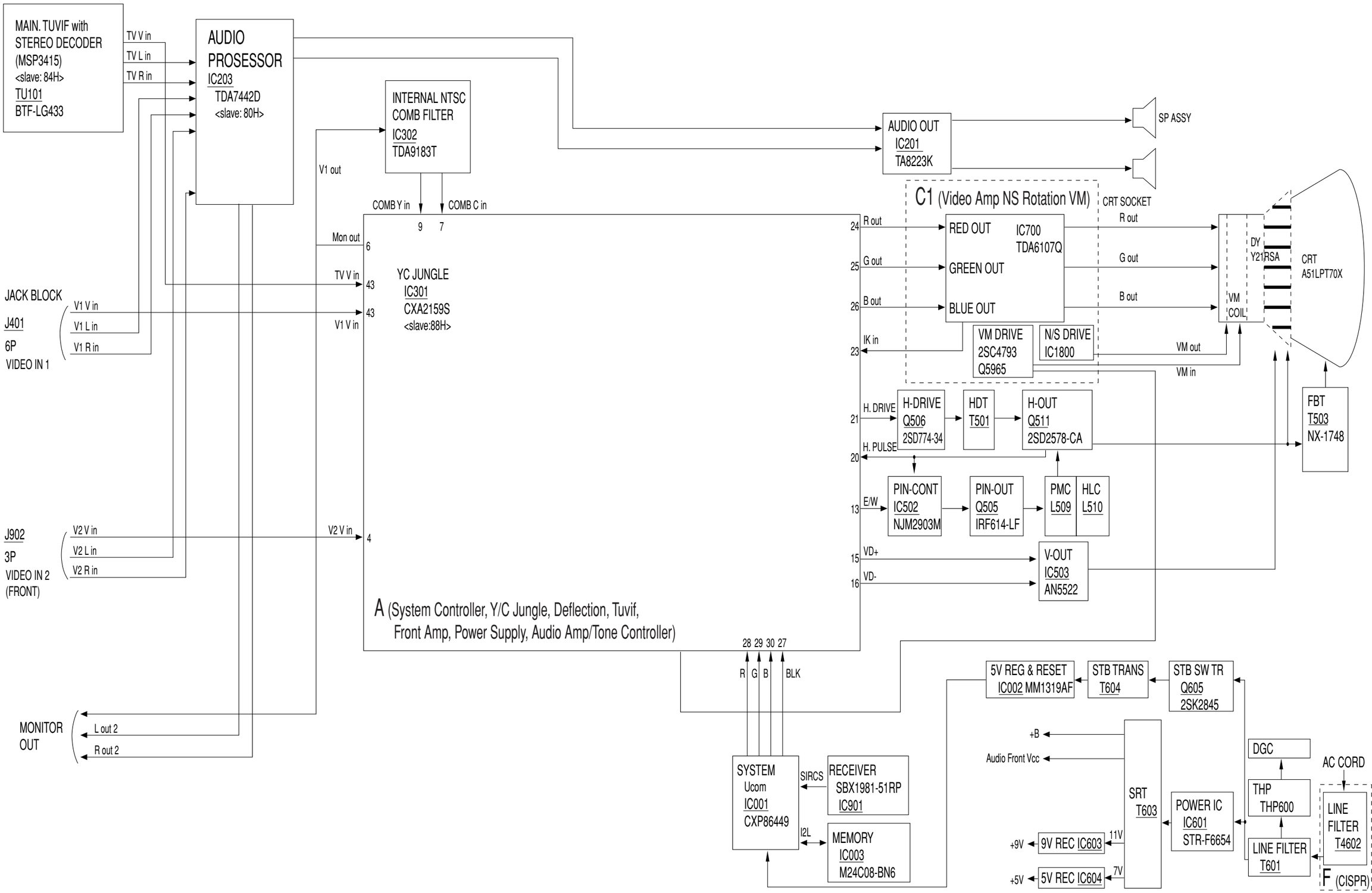


GEO 0A UPN (UPPER CORNER PIN)
GEO 0B LPN (LOWER CORNER PIN)

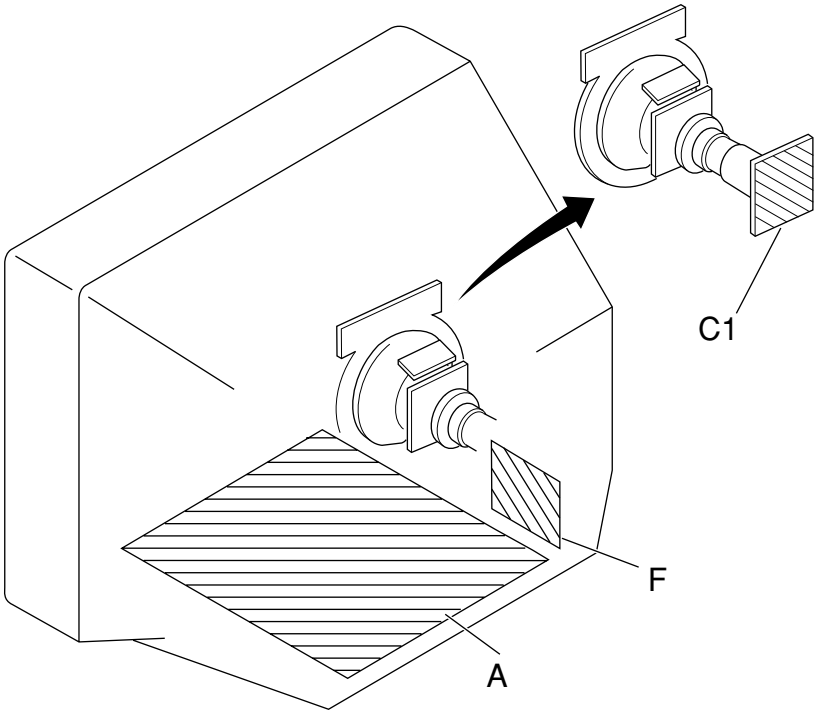


# SECTION 5
# DIAGRAMS

## 5-1. BLOCK DIAGRAM



### 5-2. CIRCUIT BOARDS LOCATION



## 5-3. SCHEMATIC DIAGRAM

**Note:**

- All capacitors are in µF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
- Indication of resistance which does not have rating electrical power is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W (CHIP: 1/10W)

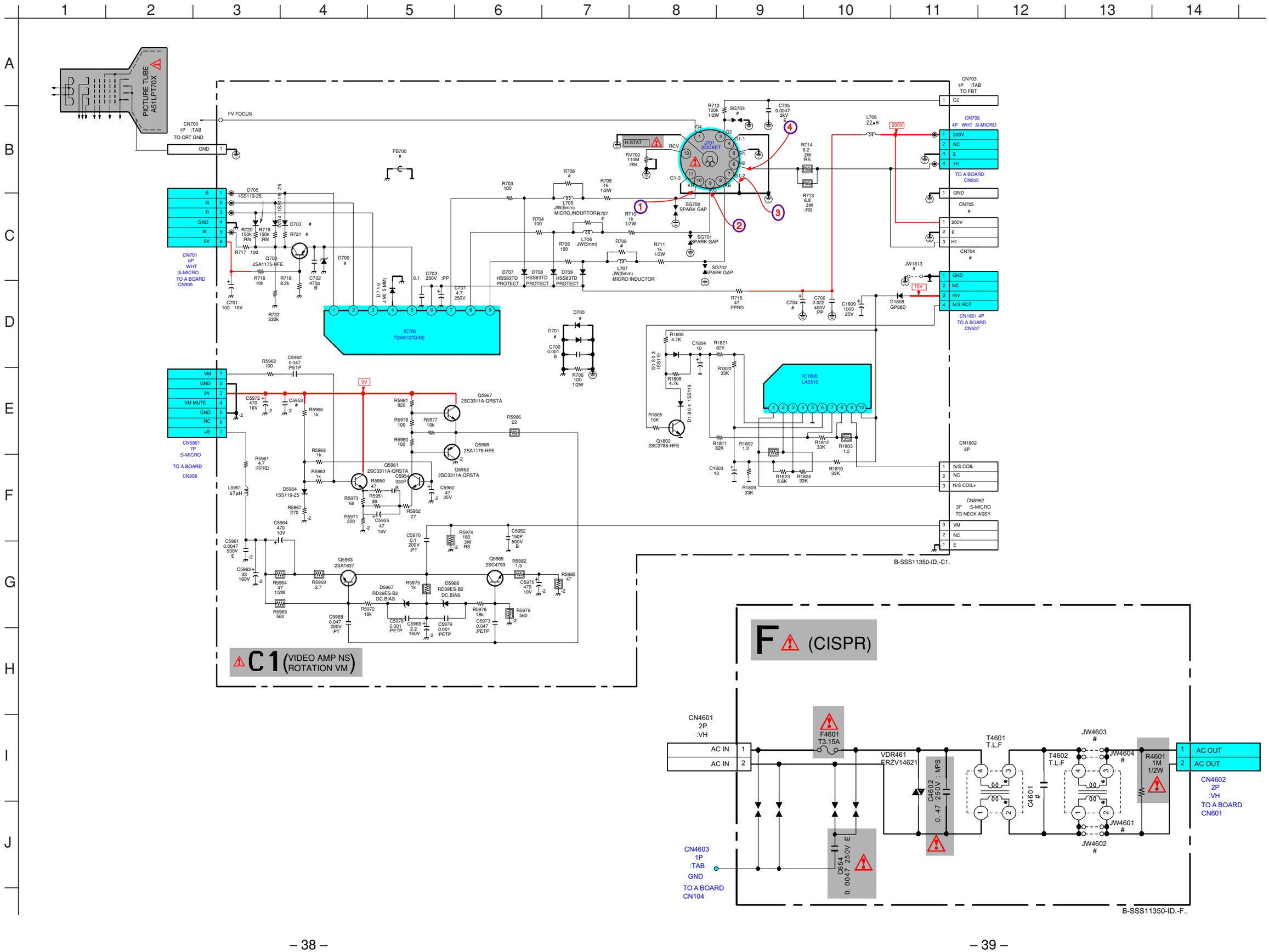
- : nonflammable resistor.
- △ : internal component.
- : panel designation or adjustment for rrepair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Redings are taken with a color-bar signal input.**
  **no mark : Common**
  **( ) : PAL**
  **[ ] : NTSC 3.58**
- **Readings are taken with a 10 digital m ultimeter.**
- **Voltage are dc with respect to ground unless otherwise noted.**
- **Voltage variations may be noted due to normal production tolerances.**
- **All voltage are in V.**
- **✻ : Cannot be measured.**
- **Circled numbers are waveform references.**
- **: B +bus.**
- **: B –bus.**
- **: signal path.**

**Reference information**

| | | |
|---|---|---|
| RESISTOR | : RN | METAL FILM |
| | : RC | SOLID |
| | : FPRD | NONFLAMMABLE CARBON |
| | : FUSE | NONFLAMMABLE FUSIBLE |
| | : RS | NONFLAMMABLE METAL OXIDE |
| | : RB | NONFLAMMABLE CEMENT |
| | : RW | NONFLAMMABLE WIREWOUND |
| | : ✻ | ADJUSTMENT RESISTOR |
| COIL | : LF-8L | MICRO INDUCTOR |
| CAPACITOR | : TA | TANTALUM |
| | : PS | STYROL |
| | : PP | POLYPROPYLENE |
| | : PT | MYLAR |
| | : MPS | METALIZED POLYESTER |
| | : MPP | METALIZED POLYPROPYLENE |
| | : ALB | BIPOLAR |
| | : ALT | HIGH TEMPERATURE |
| | : ALR | HIGH RIPPLE |

**Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.**

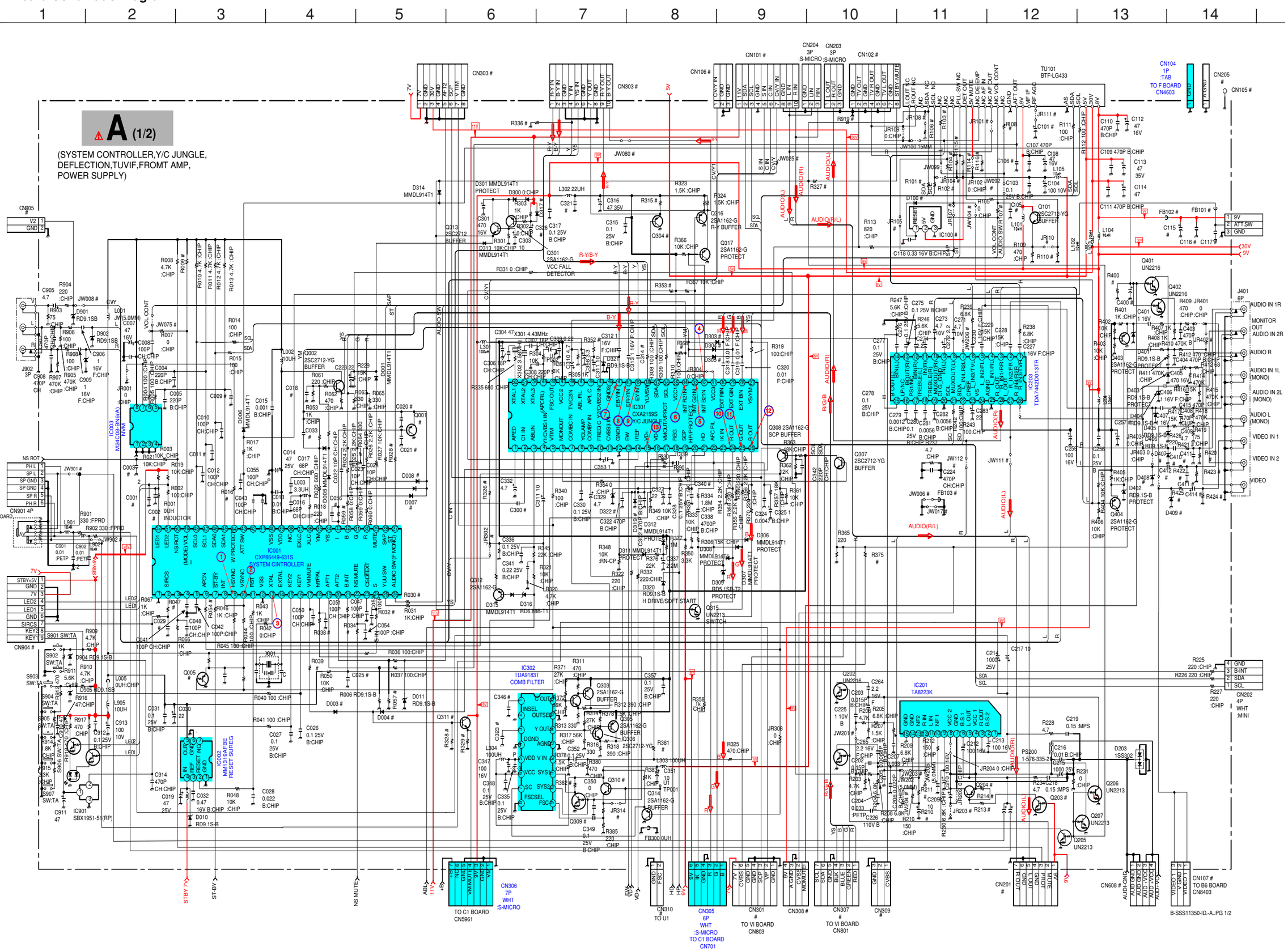
## (1) C1 and F Boards Schematic Diagrams



## (2) A Board Schematic Diagram

**A (1/2)**

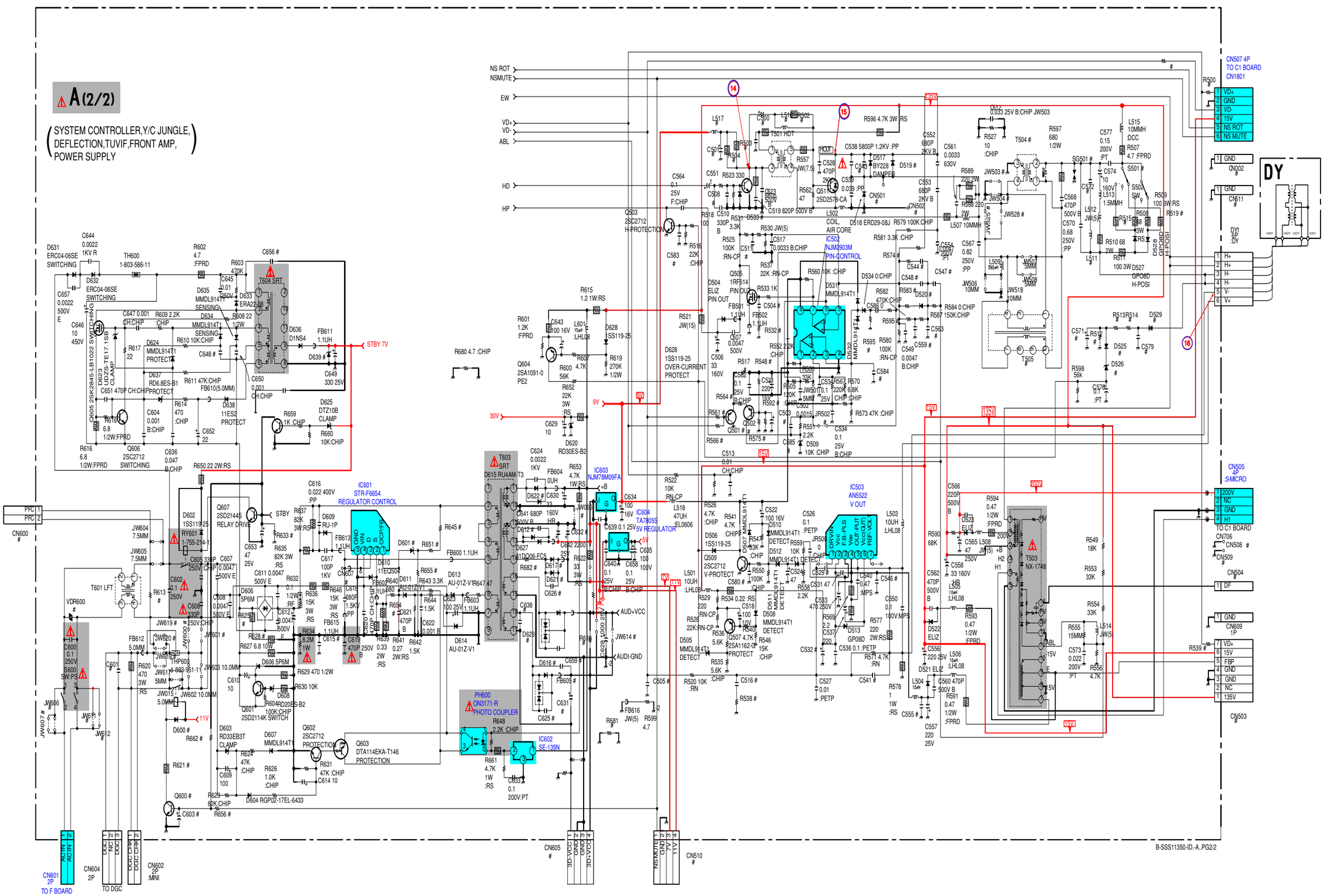
(SYSTEM CONTROLLER,Y/C JUNGLE, DEFLECTION,TUVIF,FROMT AMP, POWER SUPPLY)



KV-XA21M80 RM-952

# A (2/2)

(SYSTEM CONTROLLER,Y/C JUNGLE, DEFLECTION,TUVIF,FRONT AMP, POWER SUPPLY)


NS ROT
NSMUTE
EW
VD+
VD-
ABL
HD
HP
IC601 STR-F6654 REGULATOR CONTROL
IC603 NJM78M09FA +B
IC604 TA7805S 5V REGULATOR
IC503 AN5522 V OUT
IC502 NJM2903M PIN CONTROL
PH600 ON3171-R PHOTO COUPLER
IC602 SE-135N
Q503 2SC2712 H-PROTECTION
Q505 1RF614 PIN OUT
Q506 2SA1162-O PROTECT
Q507 4.7K 2SA1162-O PROTECT
Q509 2SC2712 V-PROTECT
Q510 2SD2578-CA
Q512 U033 25V B:CHIP JW503
Q601 2SD2114K SWITCH
Q602 2SC2712 PROTECTION
Q603 DTA114EKA-T146 PROTECTION
Q604 2SA1091-0 PE2
Q605 2SK2845-LB1022 SWITCHING
Q606 2SC2712 SWITCHING
Q607 2SD2144S RELAY DRIVE
D504 ELIZ PIN OUT
D505 MMDL914T1 DETECT
D506 1SS119-25
D507 MMDL914T1 DETECT
D508 MMDL914T1 DETECT
D509 10K :CHIP
D510 MMDL914T1 DETECT
D511 MMDL914T1 DETECT
D512 10K MMDL914T1 DETECT
D513 GP08D
D517 BY228 DAMPER
D519 #
D520 #
D521 ELIZ
D522 ELIZ
D523 ELIZ
D525
D526 #
D527 GPO8D H-POSI
D528 GPO8D H-POSI
D529
D531 MMDL914T1
D532 MMDL914T1
D533 #
D534 0:CHIP
D600 #
D601 #
D602 1SS119-25
D603 RD33EB3T CLAMP
D604 RGP02-17EL-6433
D605 RD6.8ES-B1 PROTECT
D606 5P6M
D607 MMDL914T1
D608
D609 RU-1P
D610 11EQS04
D611 AU-01Z-V1
D612 #
D613 AU-01Z-V1
D614 AU-01Z-V1
D615 RU4AM-T3
D616 #
D617 #
D618 ERD29-08J
D620 RD30ES-B2
D621 #
D622 #
D625 DTZ10B CLAMP
D626 #
D627
D628 1SS119-25 OVER-CURRENT PROTECT
D629 #
D631 ERC04-06SE SWITCHING
D632 ERC04-06SE SWITCHING
D633 ERA22-08
D634 MMDL914T1 SENSING
D635 MMDL914T1 SENSING
D636 D1NS4
D637 RD6.8ES-B1 PROTECT
D638 11ES2 PROTECT
D639 #
D640 #
D642 #
D643 3.3K
D644 #
D645 #
D646 #
D647 47
D650 #
D651 #
D652 #
D653 #
D654 #
D655 #
D656 #
D657 #
D658 #
D659 #
D660 #
D661 #
D662 #
D663 #
D664 #
D665 #
D666 #
D667 #
D668 #
D669 #

## 5-4. VOLTAGE MEASUREMENT

A(1/2) BOARD VOLTAGE LIST

| Ref | Pin No | Voltage[v] |
|---|---|---|
| IC001 | 1 | 0 |
| | 2 | 4.5 |
| | 3 | 0.5 |
| | 4 | 5.0 |
| | 5 | 5.0 |
| | 6 | 0 |
| | 7 | 4.0 |
| | 8 | 4.8 |
| | 9 | 0.5 |
| | 10 | 4.8 |
| | 11 | 5.0 |
| | 12 | 0 |
| | 13 | 2.1 |
| | 14 | 2.0 |
| | 15 | 5.0 |
| | 16 | 5.0 |
| | 17 | 0 |
| | 18 | 0 |
| | 19 | 2.0 |
| | 20 | 0.4 |
| | 21 | 5.0 |
| | 22 | 0 |
| | 23 | 5.0 |
| | 24 | 0.4 |
| | 25 | 0 |
| | 26 | 5.0 |
| | 27 | 4.8 |
| | 28 | 5.0 |
| | 29 | 0 |
| | 30 | 0 |
| | 31 | 0 |
| | 32 | 0 |
| | 33 | 5.0 |
| | 34 | 0 |
| | 35 | 0 |
| | 36 | 2.3 |
| | 37 | 2.5 |
| | 38 | 4.9 |
| | 39 | 5.0 |
| | 40 | 0 |
| | 41 | 0.4 |
| | 42 | 0.4 |
| | 43 | 0 |
| | 44 | 5.0 |
| | 45 | 5.0 |
| | 46 | 4.6 |
| | 47 | 5.0 |
| | 48 | 4.4 |
| | 49 | 0 |
| | 50 | 2.0 |
| | 51 | 0 |
| | 52 | 5.0 |
| IC002 | 1 | 0 |
| | 2 | 5.0 |
| | 3 | 4.9 |
| | 4 | 7.3 |
| | 5 | 5.0 |
| | 6 | 0 |
| | 7 | 0 |
| IC003 | 1 | 0 |
| | 2 | 0 |
| | 3 | 0 |
| | 4 | 0 |
| | 5 | 5.0 |
| | 6 | 5.0 |
| | 7 | 0 |
| | 8 | 5.0 |
| IC100 | 1 | 4.8 |
| | 2 | 4.8 |
| | 3 | 0 |
| IC201 | 1 | 0 |
| | 2 | 19.6 |
| | 3 | 10.4 |
| | 4 | 20.0 |
| | 5 | 10.5 |
| | 6 | 19.6 |
| | 7 | 0 |
| | 8 | 20.0 |
| | 9 | 10.3 |
| | 10 | 0.6 |
| | 11 | 0 |
| | 12 | 0 |
| | 13 | 0 |
| | 14 | 0.6 |
| | 15 | 0 |
| IC203 | 1 | 4.4 |
| | 2 | 4.4 |
| | 3 | 4.4 |
| | 4 | 4.4 |
| | 5 | 4.4 |
| | 6 | 4.4 |
| | 7 | 4.4 |
| | 8 | 4.4 |
| | 9 | 4.4 |
| | 10 | 4.4 |
| | 11 | 4.4 |
| | 12 | 4.4 |
| | 13 | 4.4 |
| | 14 | 4.4 |
| | 15 | 4.4 |
| | 16 | 4.4 |
| | 17 | 4.4 |
| | 18 | 4.4 |
| | 19 | 4.4 |
| | 20 | 0 |
| | 21 | 4.5 |
| | 22 | 4.5 |
| | 23 | 4.4 |
| | 24 | 8.8 |
| | 25 | 0 |
| | 26 | 3.7 |
| | 27 | 3.7 |
| | 28 | 4.4 |
| IC301 | 1 | 3.4 |
| | 2 | 5.0 |
| | 3 | 2.4 |
| | 4 | 5.0 |
| | 5 | 4.8 |
| | 6 | 4.3 |
| | 7 | 1.5 |
| | 8 | 3.8 |
| | 9 | 4.9 |
| | 10 | 3.8 |
| | 11 | 5.0 |
| | 12 | 0 |
| | 13 | 3.8 |
| | 14 | 2.3 |
| | 15 | 3.5 |
| | 16 | 3.4 |
| | 17 | 5.4 |
| | 18 | 7.6 |
| | 19 | 0.8 |
| | 20 | 3.6 |
| | 21 | 3.0 |
| | 22 | 3.8 |
| | 23 | 3.0 |
| | 24 | 1.5 |
| | 25 | 1.5 |
| | 26 | 1.6 |
| | 27 | 0 |
| | 28 | 4.5 |
| | 29 | 4.5 |
| | 30 | 4.5 |
| | 31 | 8.8 |
| | 32 | 4.1 |
| | 33 | 4.1 |
| | 34 | 3.6 |
| | 35 | 8.8 |
| | 36 | 4.5 |
| | 37 | 4.5 |
| | 38 | 0 |
| | 39 | 4.1 |
| | 40 | 4.7 |
| | 41 | 4.7 |
| | 42 | 0 |
| | 43 | 5.1 |
| | 44 | 4.9 |
| | 45 | 7.1 |
| | 46 | 5.0 |
| | 47 | 8.7 |
| | 48 | 0.2 |
| | 49 | [5.1] (4.3) |
| | 50 | 0 |
| | 51 | 0 |
| | 52 | * |
| IC302 | 1 | 0.9 |
| | 2 | 0 |
| | 3 | 1.3 |
| | 4 | 0 |
| | 5 | 4.9 |
| | 6 | 4.9 |
| | 7 | 1.0 |
| | 8 | 0 |
| | 9 | 0.5 |
| | 10 | 0 |
| | 11 | 0 |
| | 12 | 1.6 |
| | 13 | 0 |
| | 14 | 1.5 |
| | 15 | 0 |
| | 16 | 1.5 |
| IC502 | 1 | 1.3 |
| | 2 | 3.6 |
| | 3 | 1.2 |
| | 4 | 0 |
| | 5 | 3.4 |
| | 6 | 3.0 |
| | 7 | 6.8 |
| | 8 | 8.9 |
| IC503 | 1 | 1.0 |
| | 2 | 13.6 |
| | 3 | -12.4 |
| | 4 | -13.6 |
| | 5 | 0.2 |
| | 6 | 13.8 |
| | 7 | 1.0 |
| IC601 | 1 | [3.3](1.8) |
| | 2 | 1.7 (0.2) |
| | 3 | 113.3 |
| | 4 | 19.0(17.5) |
| | 5 | 1.6(0.1) |

A (2/2) BOARD VOLTAGE LIST

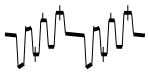
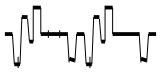
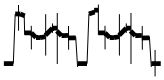
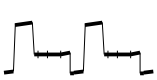
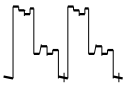
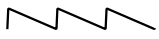
| Ref | Pin No | Voltage[v] | Ref | Pin No | Voltage[v] | Ref | Pin No | Voltage[v] |
|---|---|---|---|---|---|---|---|---|
| IC602 | 1 | 121.1 | Q306 | B | 1.5 | Q505 | D | 8.6 |
| | 2 | 135.0 | | C | 8.1 | | G | 6.9 |
| | 3 | 0 | | E | 0.9 | | S | 0 |
| IC603 | I | 12.8 | Q307 | B | 4.3 | Q506 | B | -0.4 |
| | G | 0 | | C | 8.7 | | C | 48.6 |
| | O | 8.9 | | E | 3.7 | | E | 0 |
| IC604 | I | 10.5 | Q308 | B | 3.6 | Q507 | B | 13.0 |
| | G | 0 | | C | 0.5 | | C | 0 |
| | O | 5.0 | | E | 0.8 | | E | 13.5 |
| IC901 | 1 | 4.9 | Q310 | B | 0.2 | Q509 | B | 0.6 |
| | 2 | 0 | | C | 4.9 | | C | 0.1 |
| | 3 | 4.7 | | E | 0 | | E | 0 |
| Q002 | B | 0 | Q312 | B | 5.3 | Q511 | B | 0 |
| | C | 5.0 | | C | 0 | | C | 122.6 |
| | E | 0 | | E | 7.0 | | E | 0 |
| Q101 | B | 2.8 | Q313 | B | 0 | Q600 | B | 0 |
| | C | 8.9 | | C | 12.7 | | C | 0 |
| | E | 2.2 | | E | 0 | | E | 0 |
| Q201 | B | 0 | Q314 | B | 0.5 | Q604 | B | 133.9 |
| | C | 0 | | C | 0 | | C | 0 |
| | E | 0 | | E | 1.0 | | E | 134.3 |
| Q202 | B | 0 | Q315 | B | 0 | Q605 | D | 121.6 |
| | C | 0 | | C | 1.6 | | G | -0.4 |
| | E | 0 | | E | 0 | | S | -2.1 |
| Q205 | B | 0 | Q316 | B | 4.1 | Q606 | B | -1.5 |
| | C | 10.3 | | C | 0 | | C | -0.5 |
| | E | 0 | | E | 4.7 | | E | -2.1 |
| Q206 | B | 0 | Q317 | B | 4.1 | Q607 | B | 0.7 |
| | C | 0 | | C | 0 | | C | 0 |
| | E | 0 | | E | 4.7 | | E | 0 |
| Q207 | B | 0 | Q401 | B | 0 | Q608 | B | 0 |
| | C | 0 | | C | 0 | | C | 0.7 |
| | E | 0 | | E | 0 | | E | 0 |
| Q301 | B | 12.8 | Q402 | B | 0 | Q901 | B | 0.1 |
| | C | 0 | | C | 0 | | C | 5.0 |
| | E | 12.6 | | E | 0 | | E | 0.1 |
| Q302 | B | 1.5 | Q403 | B | 4.5 | Q902 | B | 0 |
| | C | 8.1 | | C | 0 | | C | 5.0 |
| | E | 0.9 | | E | 5.2 | | E | 0 |
| Q303 | B | 8.1 | Q404 | B | 4.5 | PH600 | 1 | 128.7 |
| | C | 1.5 | | C | 0 | | 2 | 127.7 |
| | E | 8.7 | | E | 5.2 | | 3 | 3.6 |
| Q305 | B | 8.1 | Q503 | B | 0 | | 4 | 17.5 |
| | C | 1.8 | | C | 3.6 | | | |
| | E | 8.7 | | E | 0 | | | |

C1 BOARD VOLTAGE LIST

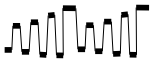
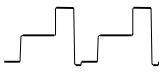
| Ref | Pin No | Voltage[v] | Ref | Pin No | Voltage[v] | Ref | Pin No | Voltage[v] |
|---|---|---|---|---|---|---|---|---|
| IC700 | 1 | 1.6 | | 8 | 6.6 | Q5962 | B | 2.4 |
| | 2 | 1.6 | | 9 | 6.6 | | C | 5.3 |
| | 3 | 1.5 | | 10 | 13.1 | | E | 1.8 |
| | 4 | 0 | J701 | G2 | [325.8](328.2) | Q5963 | B | 134.1 |
| | 5 | 4.9 | | H1 | 0 | | C | 67.1 |
| | 6 | 194.5 | | KB | [155.8](150.3) | | E | 134.7 |
| | 7 | 160.5 | | KG | [153.7](155.7) | Q5965 | B | 0.9 |
| | 8 | [157.4](155) | | KR | [160.8](154.5) | | C | 67.1 |
| | 9 | [155.3](150) | Q700 | B | 4.5 | | E | 0.3 |
| IC1800 | 1 | 6.7 | | C | 3.6 | Q5967 | B | 5.9 |
| | 2 | 6.7 | | E | 4.9 | | C | 8.9 |
| | 3 | 6.7 | Q1802 | B | 0.3 | | E | 5.6 |
| | 4 | 6.6 | | C | 3.6 | Q5968 | B | 5.3 |
| | 5 | 0 | | E | 0 | | C | 0 |
| | 6 | 6.6 | Q5961 | B | 2.4 | | E | 5.6 |
| | 7 | 6.6 | | C | 8.9 | | | |
| | | | | E | 1.8 | | | |

## 5-5. WAVEFORMS

### A BOARD WAVEFORMS

| | | | | |
|---|---|---|---|---|
| ① 4.8Vp-p (V) | ② 5.0Vp-p (V) | ③ 4.4Vp-p (V) | ④ PAL/SECAM  1.2Vp-p (H) | ④ NTSC  1.2Vp-p (H) |
| ⑤ 0.9Vp-p (V) | ⑥ PAL/SECAM  0.9Vp-p (H) | ⑥ NTSC 1.2Vp-p (H) | ⑦ 1.0Vp-p (H) | ⑧  1.0Vp-p (H) |
| ⑨ 1.4Vp-p (H) | ⑩ 3.5Vp-p | ⑪  3.2Vp-p (H) | ⑫ PAL/SECAM 3.2Vp-p (H) | ⑫ NTSC 3.2Vp-p (H) |
| ⑬ 1.4Vp-p (H) | ⑭ 110Vp-p | ⑮ 194Vp-p | ⑯  1.5Vp-p (V) | |

### C1 BOARD WAVEFORMS

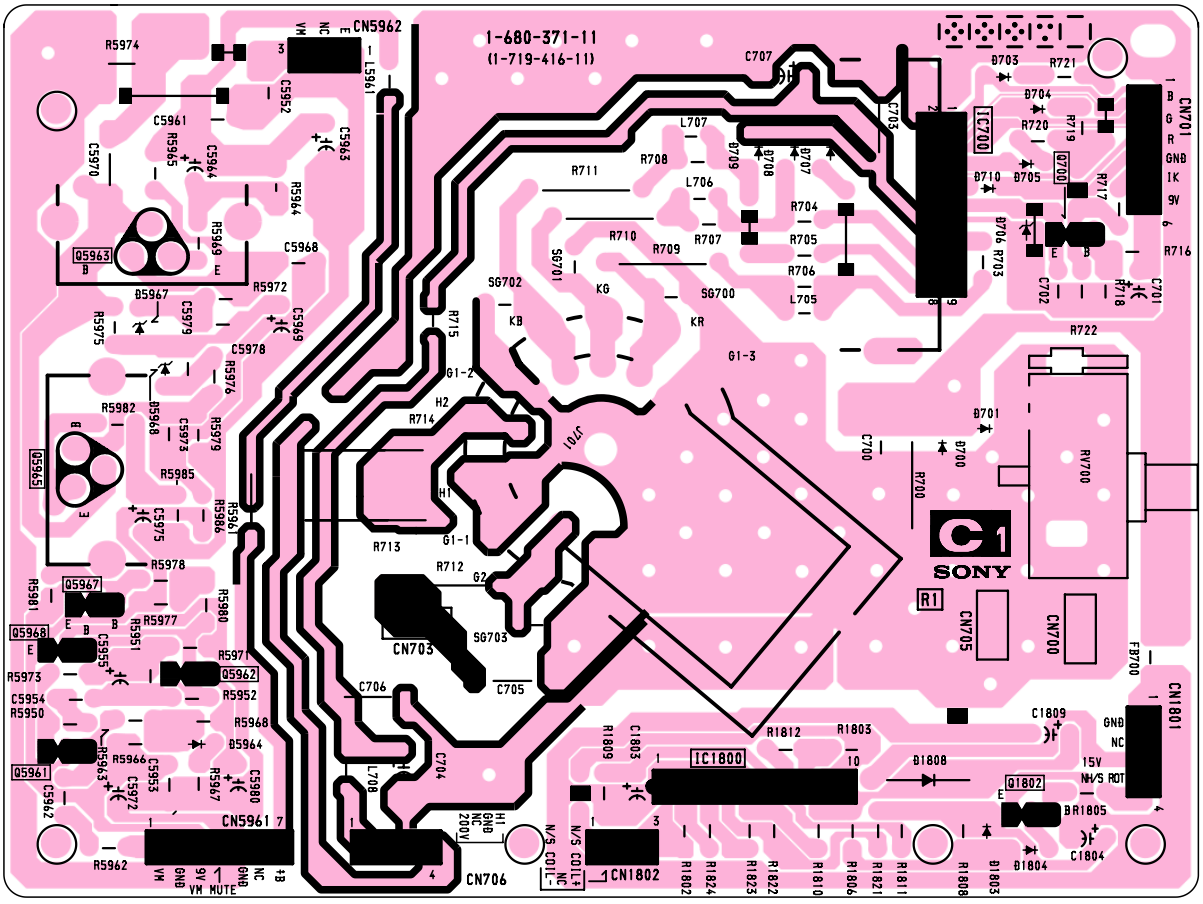
| | | |
|---|---|---|
| ① 25Vp-p (H) | ② PAL 89Vp-p (H) | ② SECAM 90Vp-p (H) |
| ② NTSC 3.58  80Vp-p (H) | ② NTSC 4.43 93Vp-p (H) | ③  PAL/SECAM : 95Vp-p (H)<br>NTSC : 86Vp-p (H) |
| ④ 75Vp-p (H) | | |

## 5-6. PRINTED WIRING BOARDS AND PARTS LOCATION
## PRINTED WIRING BOARDS

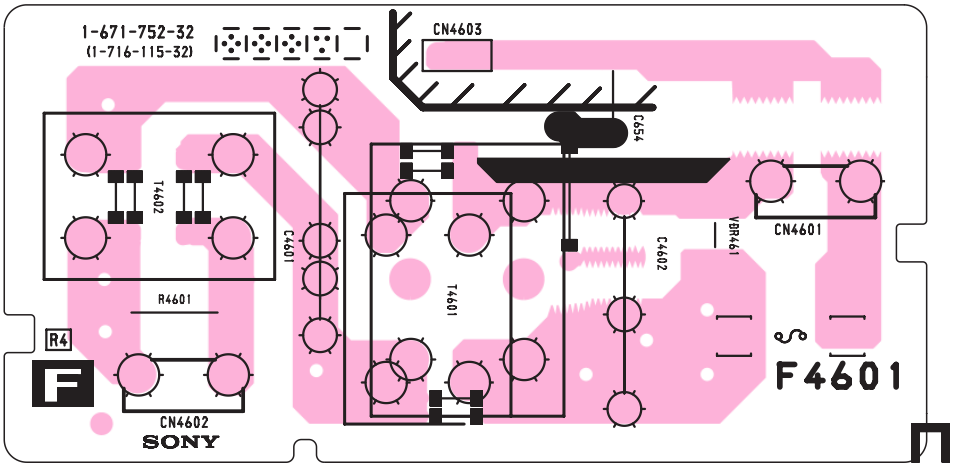
**C1** [VIDEO AMP NS ROTATION VM]

**F** [CISPR]

**– C1 Board –**




**– F Board –**

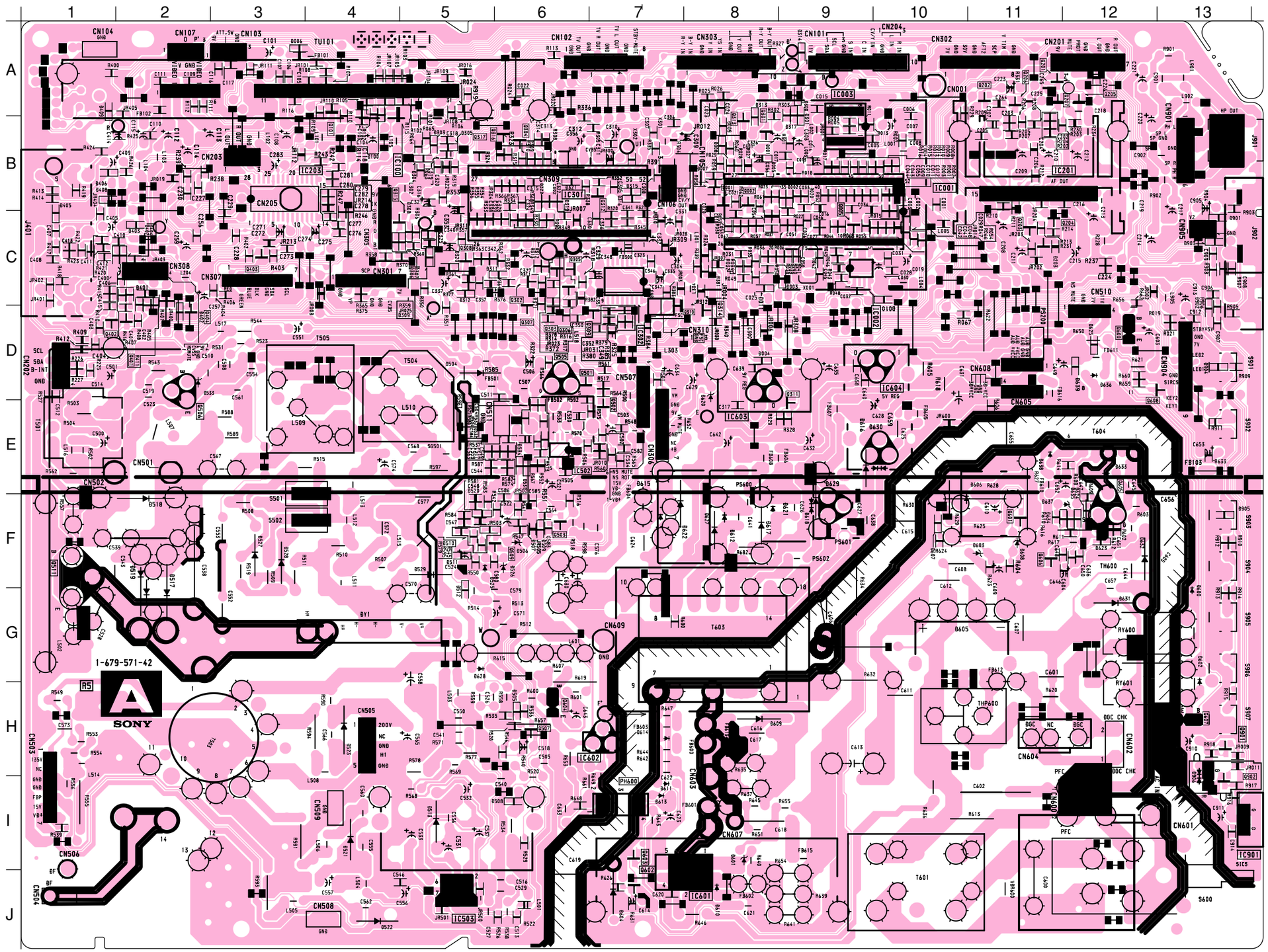


## PRINTED WIRING BOARDS

**A** [SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY, AUDIO AMP/TONE CONTROLLER]

**– A Board –**

**NOTE:**
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.




### A BOARD

**IC**

| | |
|---|---|
| IC001 | B-10 |
| IC002 | D-10 |
| IC003 | A-9 |
| IC100 | B-4 |
| IC201 | B-12 |
| IC203 | B-4 |
| IC301 | B-6 |
| IC302 | D-7 |
| IC502 | E-6 |
| IC503 | J-5 |
| IC601 | J-8 |
| IC602 | H-6 |
| IC603 | E-8 |
| IC604 | D-10 |
| IC901 | I-13 |

**TRANSISTOR**

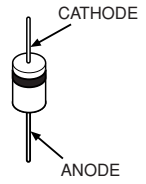
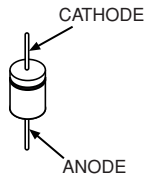
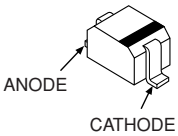
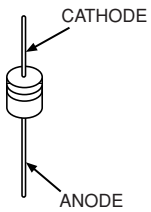
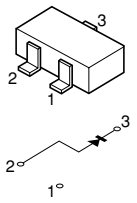
| | |
|---|---|
| Q001 | B-8 |
| Q002 | B-8 |
| Q005 | B-9 |
| Q101 | B-4 |
| Q201 | A-11 |
| Q202 | A-11 |
| Q203 | C-11 |
| Q204 | C-12 |
| Q205 | A-12 |
| Q206 | A-11 |
| Q207 | A-12 |
| Q301 | A-8 |
| Q302 | C-6 |
| Q303 | D-6 |
| Q304 | B-6 |
| Q305 | C-6 |
| Q306 | D-6 |
| Q307 | D-6 |
| Q308 | C-5 |
| Q309 | D-7 |
| Q310 | D-8 |
| Q311 | D-9 |
| Q312 | B-7 |
| Q313 | A-8 |
| Q314 | C-8 |
| Q315 | B-4 |
| Q316 | B-5 |
| Q317 | B-5 |
| Q401 | D-2 |
| Q402 | D-1 |
| Q403 | C-3 |
| Q404 | D-2 |
| Q501 | D-6 |
| Q502 | E-7 |
| Q503 | F-6 |
| Q505 | D-6 |
| Q506 | E-2 |
| Q507 | H-6 |
| Q509 | F-6 |
| Q511 | F-1 |
| Q600 | D-12 |
| Q601 | F-11 |
| Q602 | I-7 |
| Q603 | I-7 |
| Q604 | H-6 |
| Q605 | E-12 |
| Q606 | F-11 |
| Q607 | H-13 |
| Q608 | D-12 |
| Q901 | H-13 |
| Q902 | H-13 |

**DIODE**

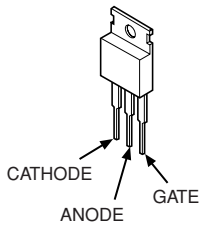
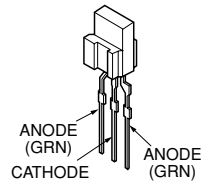
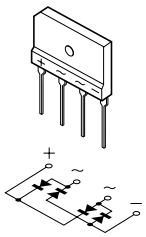
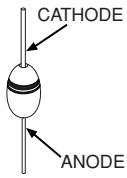
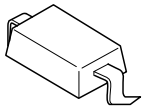
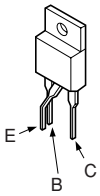
| | |
|---|---|
| D001 | B-8 |
| D002 | B-9 |
| D003 | C-9 |
| D004 | D-8 |
| D005 | B-8 |
| D006 | A-3 |
| D007 | B-8 |
| D008 | B-8 |
| D009 | B-8 |
| D010 | C-10 |
| D011 | C-8 |
| D100 | B-4 |
| D203 | C-11 |
| D300 | A-9 |
| D301 | B-9 |
| D303 | B-5 |
| D304 | B-5 |
| D305 | B-5 |
| D306 | C-5 |
| D307 | C-5 |
| D308 | B-5 |
| D309 | D-5 |
| D311 | C-5 |
| D312 | C-5 |
| D313 | A-8 |
| D314 | A-9 |
| D315 | B-7 |
| D316 | B-7 |
| D317 | B-9 |
| D319 | B-6 |
| D320 | C-5 |
| D322 | B-6 |
| D401 | C-2 |
| D402 | D-2 |
| D403 | C-2 |
| D404 | C-2 |
| D405 | B-1 |
| D406 | B-1 |
| D407 | C-2 |
| D408 | B-1 |
| D409 | A-1 |
| D504 | D-5 |
| D505 | H-6 |
| D506 | F-6 |
| D507 | F-6 |
| D508 | I-6 |
| D509 | F-6 |
| D510 | F-5 |
| D511 | F-5 |
| D512 | F-5 |
| D513 | I-5 |
| D517 | F-2 |
| D518 | F-2 |
| D519 | F-2 |
| D520 | E-5 |
| D521 | I-4 |
| D522 | J-4 |
| D523 | H-4 |
| D525 | F-5 |
| D526 | F-6 |
| D527 | F-3 |
| D528 | F-3 |
| D529 | F-5 |
| D531 | E-6 |
| D532 | E-5 |
| D533 | D-2 |
| D534 | E-6 |
| D600 | F-13 |
| D601 | I-8 |
| D602 | G-13 |
| D603 | F-11 |
| D604 | J-7 |
| D605 | G-10 |
| D606 | E-11 |
| D607 | F-10 |
| D608 | F-11 |
| D609 | H-8 |
| D610 | J-8 |
| D611 | I-7 |
| D612 | F-8 |
| D613 | I-7 |
| D614 | H-7 |
| D615 | E-7 |
| D616 | E-9 |
| D617 | F-8 |
| D618 | F-9 |
| D620 | D-8 |
| D621 | F-9 |
| D622 | F-8 |
| D623 | F-12 |
| D624 | E-12 |
| D625 | D-12 |
| D627 | F-8 |
| D628 | G-5 |
| D629 | F-9 |
| D630 | E-10 |
| D631 | G-12 |
| D632 | F-12 |
| D633 | E-12 |
| D634 | F-11 |
| D635 | E-12 |
| D636 | D-12 |
| D637 | F-11 |
| D638 | E-11 |
| D639 | D-12 |
| D901 | C-13 |
| D902 | C-13 |
| D903 | C-13 |
| D904 | D-13 |
| D905 | F-13 |
| D906 | H-13 |
| PH600 | H-7 |

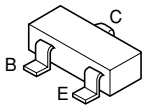
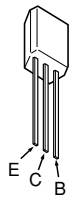
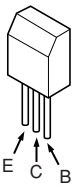
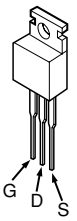
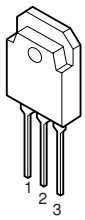
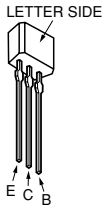
## 5-7 SEMICONDUCTORS

DIODE

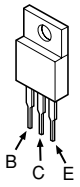
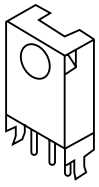
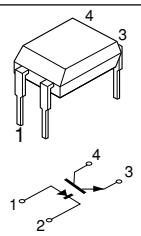
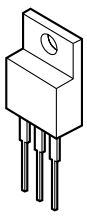
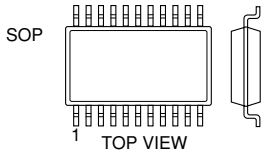
| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  | |
| AU-01Z-V1<br>EL1Z<br>ERA22-08<br>ERC04-06SE<br>GP08D<br>HSS83TD<br>RD33EB3T<br>RGP02-17E-6433<br>RU4AM-T3<br>31DQ06-FC5 | ERD29-08J | RD5.1SB-T2<br>RD9.1S-B<br>1SS302<br>DTZ10B<br>UDZS-TE17-15B | D1NS4<br>RD6.8ES-B1<br>RD6.8SB-T1<br>RD20ES-B2<br>RD30ES-B2<br>RD39-ES-B2<br>1SS119-25<br>11EQS04<br>11ES2 | 1SS302 | RN4Z |

TRANSISTOR

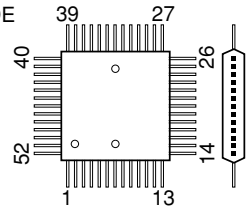
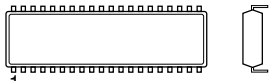
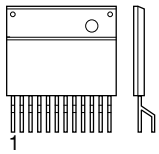
| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| 5P-6M | SPB-25MVWF | D3SB60 | BY228 | MMDL914T1 | 2SK2845-LB102 |

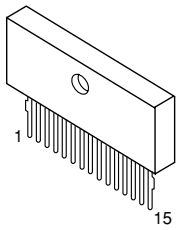
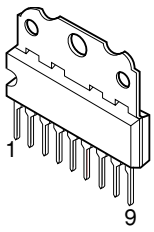
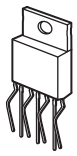
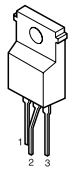
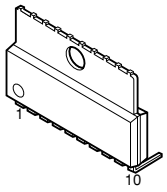
| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| DTA114EKA-T146<br>UN2213<br>UN2216<br>2SA1162-G<br>2SD2114K<br>2SC2712-YG | 2SA1091-0<br>2SD2144S-UVW | 2SD774-34 | IRF614 | 2SD2578-CA | 2SC2785-HFE<br>2SA1175-HFE<br>2SC3311A-QRSTA |

IC

| | | | | |
|---|---|---|---|---|
|  |  |  |  |  |
| 2SA1837<br>2SC4793 | SBX1981-51RP | ON3171-R | NJM78M09FA<br>TA7805S | MM1319AFBE<br>NJM2903M |

IC

| | | |
|---|---|---|
| MARKING SIDE VIEW<br>  | DIP<br>  <br>TOP VIEW<br><br>Dual In-line Package<br>Pin 6～98 | MARKING SIDE VIEW<br>  <br>Zig-zag In -line Package<br>Pin 6～99 |
| RU-1P | CXP86449-631S<br>CXA2159S<br>M24C08-BN6<br>TDA7442DO13TR<br>TDA9183T | STR-F6654 |

| | | | | |
|---|---|---|---|---|
|  |  |  |  |  |
| TA8223K | TDA6107Q/N2 | AN5522 | SE-135N | LA6510 |

# SECTION 6
# EXPLODED VIEWS

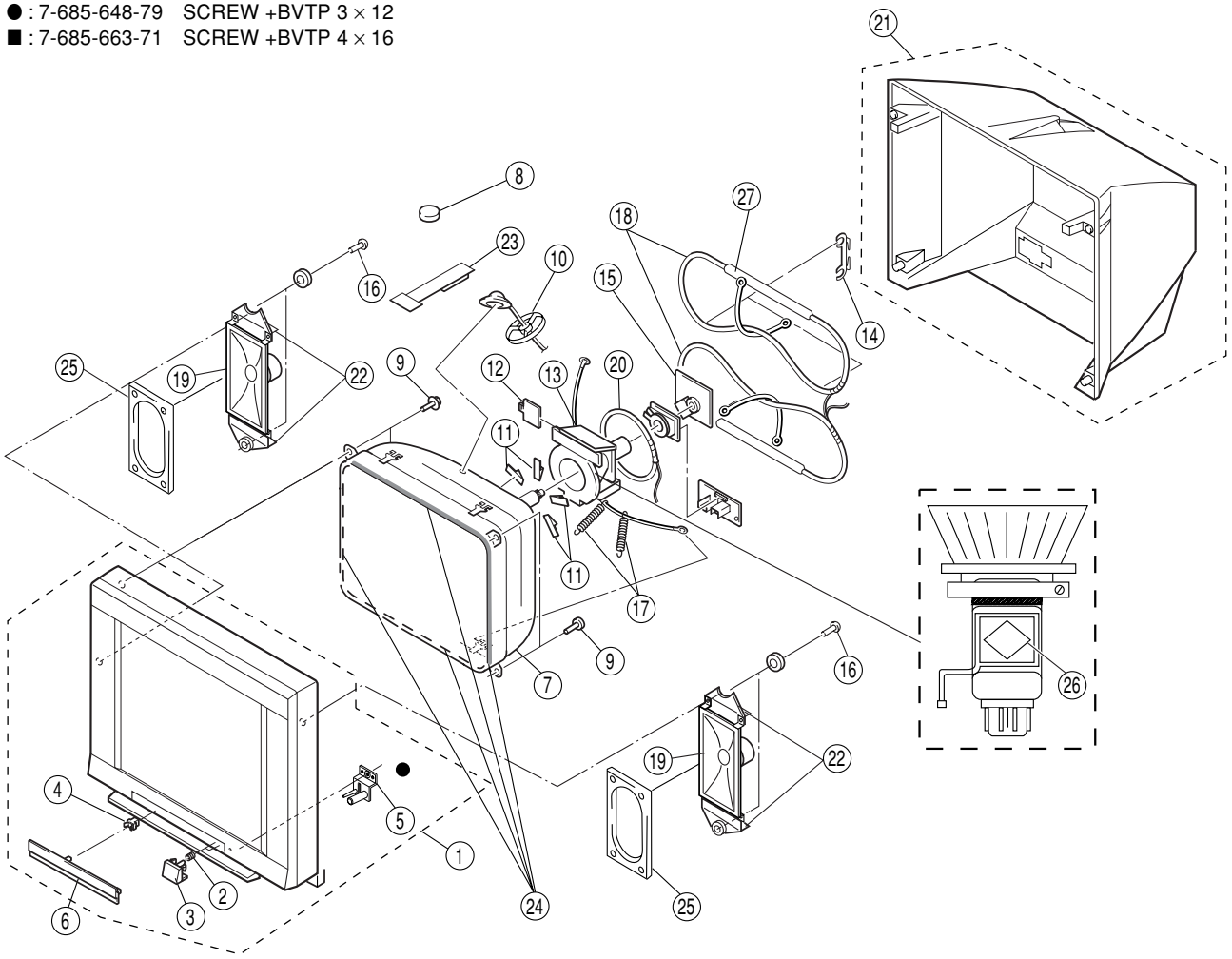
**NOTE:**

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

## 6-1. PICTURE TUBE

● : 7-685-648-79 SCREW +BVTP 3 × 12
■ : 7-685-663-71 SCREW +BVTP 4 × 16

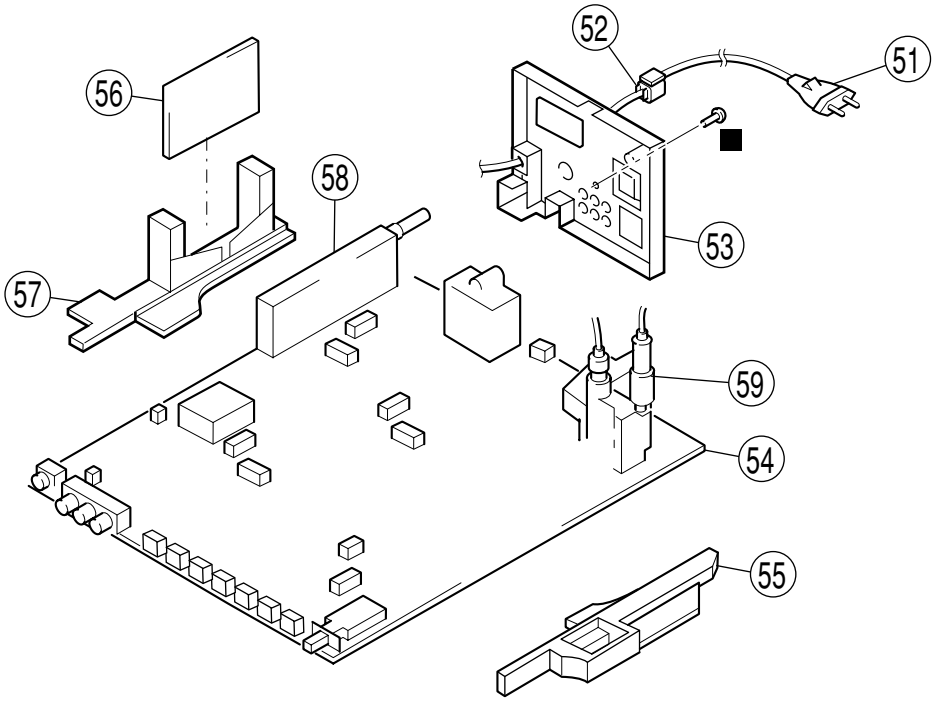



| REF. NO. | | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|---|
| 1 | | X-4040-407-1 | BEZNET ASSY | 2 - 5 |
| 2 | | 4-036-405-41 | SPRING, COMPRESSION | |
| 3 | | 4-080-400-01 | BUTTON, POWER | |
| 4 | | 4-047-464-01 | CATCHER, PUSH | |
| 5 | * | 4-080-401-01 | GUIDE, LIGHT | |
| 6 | | 4-083-910-51 | DOOR, CONTROL | |
| 7 | ⚠ | 8-738-809-05 | PICTURE TUBE (A51LPT70X) | |
| 8 | | 1-452-032-00 | MAGNET, DISC | |
| 9 | | 4-365-808-01 | SCREW, (5) TAPPING | |
| 10 | * | 3-704-372-41 | HOLDER, HV CABLE | |
| 11 | | 4-046-600-11 | SPACER, DY | |
| 12 | | 4-057-714-01 | PIECE, TLH CONVERGENCE | |
| 13 | ⚠ | 1-451-534-11 | DEFLECTION YOKE (Y21RSA) | |
| 14 | | 4-064-883-03 | HOLDER, DGC | |
| 15 | * | A-1332-195-A | C1 BOARD, MOUNTED | |

| REF. NO. | | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|---|
| 16 | | 4-302-404-03 | SCREW (WASHED HEAD) (+P4 X 16) | |
| 17 | | 4-369-318-61 | SPRING, TENSION | |
| 18 | ⚠ | 1-416-946-11 | COIL, DEGAUSSING | |
| 19 | | 1-529-125-11 | SPEAKER (15 X 6.5 cm) | |
| 20 | | 1-452-728-61 | COIL, ROTATION | |
| 21 | | X-4039-600-2 | REAR, COVER ASSY ( ■ 8 SCREWS) | |
| 22 | | 4-046-981-11 | BRACKET, SPEAKER | |
| 23 | | 4-051-736-42 | PIECE A(90) CONV, CORRECT | |
| 24 | | 4-069-652-51 | CUSHION (HS BAND) | |
| 25 | * | 4-069-797-31 | CUSHION SPEAKER (S) | |
| 26 | | 1-416-864-12 | COIL, VM | |
| 27 | | 4-069-653-51 | CUSHION, DGC | |

## 6-2. CHASSIS

■ : 7-685-663-71 SCREW +BVTP 4 × 16




| REF. NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| 51 | ⚠ 1-782-452-11 | CORD, POWER (WITH CONNECTOR) | |
| 52 | ⚠ 4-022-115-21 | HOLDER, AC CORD | |
| 53 | * 4-070-140-11 | BRACKET TERMINAL | |
| 54 | * A-1300-575-A | A BOARD COMPLETE | |
| 55 | * 4-070-138-02 | PWB(R), GUIDE | |
| 56 | * A-1241-498-A | F BOARD MOUNTED | |
| 57 | * 4-070-139-02 | PWB(L), GUIDE- | |
| 58 | 8-598-449-20 | TUNER, FSS BTF-LG433 | |
| 59 | ⚠ 1-453-293-11 | TRANSFORMER ASSY FLYBACK | |
| | | (NX-1748//M3A4) | |

A

# SECTION 7
# ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : µF, PF : µµF

COILS
- MMH : mH, UH : µH

| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| | * A-1300-575-A | A BOARD COMPLETE | | | |
| | | ********** | | | |
| | * 4-040-983-41 | TERMINAL BOARD (D) | | | |
| | * 4-055-304-01 | HOLDER, LED | | | |
| | 4-382-854-11 | SCREW (M3X10), P, SW (+) | | | |
| | 4-382-854-21 | SCREW (M3X14), P, SW (+) | | | |
| | | <CAPACITOR> | | | |
| C004 | 1-163-001-11 | CERAMIC CHIP | 220PF | 10.00% | 50V |
| C005 | 1-163-001-11 | CERAMIC CHIP | 220PF | 10.00% | 50V |
| C006 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C007 | 1-126-947-11 | ELECT | 47UF | 20.00% | 16V |
| C008 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C010 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C012 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C013 | 1-163-021-91 | CERAMIC CHIP | 0.01UF | 10.00% | 50V |
| C014 | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C015 | 1-163-009-91 | CERAMIC CHIP | 0.001UF | 10.00% | 50V |
| C016 | 1-163-247-91 | CERAMIC CHIP | 68PF | 5.00% | 50V |
| C017 | 1-163-247-91 | CERAMIC CHIP | 68PF | 5.00% | 50V |
| C019 | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C022 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.50PF | 50V |
| C023 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.50PF | 50V |
| C024 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.50PF | 50V |
| C026 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C027 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C028 | 1-163-037-11 | CERAMIC CHIP | 0.022UF | 10.00% | 50V |
| C030 | 1-126-965-91 | ELECT | 22UF | 20.00% | 50V |
| C031 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C032 | 1-107-823-11 | CERAMIC CHIP | 0.47UF | 10.00% | 16V |
| C041 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C042 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C043 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C044 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C047 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C048 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C050 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C051 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C053 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C054 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C055 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C103 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C104 | 1-104-665-11 | ELECT | 100UF | 20.00% | 10V |
| C107 | 1-163-005-91 | CERAMIC CHIP | 470PF | 10.00% | 50V |
| C108 | 1-126-947-11 | ELECT | 47UF | 20.00% | 16V |
| C109 | 1-163-005-91 | CERAMIC CHIP | 470PF | 10.00% | 50V |
| C110 | 1-163-005-91 | CERAMIC CHIP | 470PF | 10.00% | 50V |
| C111 | 1-163-005-91 | CERAMIC CHIP | 470PF | 10.00% | 50V |
| C112 | 1-126-947-11 | ELECT | 47UF | 20.00% | 16V |
| C113 | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C114 | 1-126-967-11 | ELECT | 47UF | 20.00% | 50V |

| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| C118 | 1-110-501-11 | CERAMIC CHIP | 0.33UF | 10.00% | 16V |
| C202 | 1-163-023-00 | CERAMIC CHIP | 0.015UF | 10.00% | 50V |
| C203 | 1-163-023-00 | CERAMIC CHIP | 0.015UF | 10.00% | 50V |
| C204 | 1-130-489-00 | MYLAR | 0.033UF | 5.00% | 50V |
| C205 | 1-163-019-00 | CERAMIC CHIP | 0.0068UF | 10.00% | 50V |
| C206 | 1-163-019-00 | CERAMIC CHIP | 0.0068UF | 10.00% | 50V |
| C207 | 1-130-489-00 | MYLAR | 0.033UF | 5.00% | 50V |
| C208 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C209 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C210 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C211 | 1-126-941-11 | ELECT | 470UF | 20.00% | 25V |
| C212 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C213 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C214 | 1-125-813-51 | ELECT | 1000UF | 20.00% | 25V |
| C215 | 1-125-813-51 | ELECT | 1000UF | 20.00% | 25V |
| C216 | 1-163-021-91 | CERAMIC CHIP | 0.01UF | 10.00% | 50V |
| C217 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C218 | 1-136-167-00 | FILM | 0.15UF | 5.00% | 50V |
| C219 | 1-136-167-00 | FILM | 0.15UF | 5.00% | 50V |
| C220 | 1-125-813-51 | ELECT | 1000UF | 20.00% | 25V |
| C221 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C223 | 1-126-965-91 | ELECT | 22UF | 20.00% | 50V |
| C224 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C225 | 1-109-982-11 | CERAMIC CHIP | 1UF | 10.00% | 10V |
| C226 | 1-109-982-11 | CERAMIC CHIP | 1UF | 10.00% | 10V |
| C227 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C228 | 1-216-077-91 | RES-CHIP | 15K | 5% | 1/10W |
| C229 | 1-216-077-91 | RES-CHIP | 15K | 5% | 1/10W |
| C230 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C256 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C259 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C264 | 1-164-505-11 | CERAMIC CHIP | 2.2UF | | 16V |
| C265 | 1-164-505-11 | CERAMIC CHIP | 2.2UF | | 16V |
| C271 | 1-117-720-11 | CERAMIC CHIP | 4.7UF | | 10V |
| C272 | 1-125-800-91 | ELECT | 2.2UF | 20.00% | 63V |
| C273 | 1-117-720-11 | CERAMIC CHIP | 4.7UF | | 10V |
| C274 | 1-125-800-91 | ELECT | 2.2UF | 20.00% | 63V |
| C275 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C276 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C277 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C278 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C279 | 1-163-010-11 | CERAMIC CHIP | 0.0012UF | 10.00% | 50V |
| C280 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C281 | 1-163-018-00 | CERAMIC CHIP | 0.0056UF | 10.00% | 50V |
| C282 | 1-163-018-00 | CERAMIC CHIP | 0.0056UF | 10.00% | 50V |
| C283 | 1-126-965-91 | ELECT | 22UF | 20.00% | 50V |
| C301 | 1-126-935-11 | ELECT | 470UF | 20.00% | 16V |
| C302 | 1-163-005-91 | CERAMIC CHIP | 470PF | 10.00% | 50V |
| C303 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C304 | 1-126-967-11 | ELECT | 47UF | 20.00% | 50V |
| C305 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C306 | 1-163-233-91 | CERAMIC CHIP | 18PF | 5.00% | 50V |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| C307 | 1-163-233-91 | CERAMIC CHIP | 18PF | 5.00% | 50V |
| C308 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5.00% | 50V |
| C309 | 1-137-378-11 | MYLAR | 0.22UF | 5.00% | 50V |
| C310 | 1-125-805-91 | ELECT | 4.7UF | 20.00% | 50V |
| C311 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C312 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C313 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C315 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C316 | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C317 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C318 | 1-163-031-91 | CERAMIC CHIP | 0.01UF | | 50V |
| C319 | 1-163-031-91 | CERAMIC CHIP | 0.01UF | | 50V |
| C320 | 1-163-031-91 | CERAMIC CHIP | 0.01UF | | 50V |
| C322 | 1-163-005-91 | CERAMIC CHIP | 470PF | 10.00% | 50V |
| C324 | 1-163-017-00 | CERAMIC CHIP | 0.0047UF | 10.00% | 50V |
| C325 | 1-126-960-11 | ELECT | 1UF | 20.00% | 50V |
| C327 | 1-126-965-91 | ELECT | 22UF | 20.00% | 50V |
| C328 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C329 | 1-125-805-91 | ELECT | 4.7UF | 20.00% | 50V |
| C330 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C332 | 1-125-805-91 | ELECT | 4.7UF | 20.00% | 50V |
| C335 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C336 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C337 | 1-125-800-91 | ELECT | 2.2UF | 20.00% | 63V |
| C338 | 1-163-017-00 | CERAMIC CHIP | 0.0047UF | 10.00% | 50V |
| C341 | 1-115-340-11 | CERAMIC CHIP | 0.22UF | 10.00% | 25V |
| C342 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5.00% | 50V |
| C347 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C348 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C349 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C350 | 1-216-295-91 | SHORT CHIP | 0 | | |
| C351 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C352 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C353 | 1-126-960-11 | ELECT | 1UF | 20.00% | 50V |
| C356 | 1-126-962-11 | ELECT | 3.3UF | 20.00% | 63V |
| C357 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C401 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C402 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C403 | 1-163-005-91 | CERAMIC CHIP | 470PF | 10.00% | 50V |
| C404 | 1-163-005-91 | CERAMIC CHIP | 470PF | 10.00% | 50V |
| C405 | 1-126-935-11 | ELECT | 470UF | 20.00% | 16V |
| C406 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C407 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C408 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C409 | 1-125-805-91 | ELECT | 4.7UF | 20.00% | 50V |
| C415 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C502 | 1-163-145-00 | CERAMIC CHIP | 0.0015UF | 5.00% | 50V |
| C506 | 1-107-638-11 | ELECT | 33UF | 20.00% | 160V |
| C507 | 1-161-830-00 | CERAMIC | 0.0047UF | | 500V |
| C510 | 1-102-112-00 | CERAMIC | 330PF | 10.00% | 50V |
| C512 | 1-163-989-11 | CERAMIC CHIP | 0.033UF | 10.00% | 25V |
| C513 | 1-163-031-91 | CERAMIC CHIP | 0.01UF | | 50V |
| C514 | 1-106-383-00 | MYLAR | 0.047UF | 10.00% | 200V |
| C517 | 1-164-182-11 | CERAMIC CHIP | 0.0033UF | 10.00% | 50V |
| C518 | 1-104-665-11 | ELECT | 100UF | 20.00% | 10V |
| C519 | 1-102-212-00 | CERAMIC | 820PF | 10.00% | 500V |
| C521 | 1-126-934-11 | ELECT | 220UF | 20.00% | 16V |
| C522 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C523 | 1-102-002-00 | CERAMIC | 680PF | 10.00% | 500V |
| C524 | 1-126-967-11 | ELECT | 47UF | 20.00% | 50V |
| C526 | 1-130-495-00 | MYLAR | 0.1UF | 5.00% | 50V |
| C527 | 1-136-153-00 | FILM | 0.01UF | 5.00% | 50V |
| C528 | 1-162-134-11 | CERAMIC | 470PF | 10.00% | 2KV |

| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| C530 | 1-137-372-11 | MYLAR | 0.022UF | 5.00% | 50V |
| C531 | 1-126-967-11 | ELECT | 47UF | 20.00% | 50V |
| C533 | 1-126-941-11 | ELECT | 470UF | 20.00% | 25V |
| C534 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C537 | 1-126-969-11 | ELECT | 220UF | 20.00% | 50V |
| C538 | 1-117-657-21 | FILM | 8500PF | 3.00% | 1.2KV |
| C539 | 1-129-746-91 | FILM | 0.039UF | 5.00% | 400V |
| C540 | 1-137-194-81 | FILM | 0.47UF | 5.00% | 50V |
| C549 | 1-163-017-00 | CERAMIC CHIP | 0.0047UF | 10.00% | 50V |
| C550 | 1-106-220-00 | MYLAR | 0.1UF | 10.00% | 100V |
| C551 | 1-126-960-11 | ELECT | 1UF | 20.00% | 50V |
| C552 | 1-162-116-00 | CERAMIC | 680PF | 10.00% | 2KV |
| C553 | 1-162-116-00 | CERAMIC | 680PF | 10.00% | 2KV |
| C554 | 1-137-417-11 | MYLAR | 0.0047UF | 10.00% | 200V |
| C556 | 1-104-666-11 | ELECT | 220UF | 20.00% | 25V |
| C557 | 1-104-666-11 | ELECT | 220UF | 20.00% | 25V |
| C558 | 1-123-024-21 | ELECT | 33UF | | 160V |
| C560 | 1-102-228-00 | CERAMIC | 470PF | 10.00% | 500V |
| C561 | 1-129-708-91 | FILM | 0.0033UF | 5.00% | 630V |
| C562 | 1-102-228-00 | CERAMIC | 470PF | 10.00% | 500V |
| C564 | 1-163-038-91 | CERAMIC CHIP | 0.1UF | | 25V |
| C565 | 1-107-655-11 | ELECT | 47UF | 20.00% | 250V |
| C566 | 1-102-244-00 | CERAMIC | 220PF | 10.00% | 500V |
| C567 | 1-115-521-11 | FILM | 0.82UF | 5.00% | 250V |
| C568 | 1-102-228-00 | CERAMIC | 470PF | 10.00% | 500V |
| C570 | 1-115-520-11 | FILM | 0.68UF | 5.00% | 250V |
| C573 | 1-106-375-12 | MYLAR | 0.022UF | 99% | 200V |
| C574 | 1-107-636-11 | ELECT | 10UF | 20.00% | 160V |
| C576 | 1-130-495-00 | MYLAR | 0.1UF | 5.00% | 50V |
| C577 | 1-106-395-00 | MYLAR | 0.15UF | 10.00% | 200V |
| C582 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C586 | 1-216-295-91 | SHORT CHIP | 0 | | |
| C600 ⚠ | 1-104-705-51 | MYLAR | 0.1UF | 20.00% | 250V |
| C602 ⚠ | 1-104-705-51 | MYLAR | 0.1UF | 20.00% | 250V |
| C604 | 1-163-009-91 | CERAMIC CHIP | 0.001UF | 10.00% | 50V |
| C605 ⚠ | 1-127-942-51 | CERAMIC | 330PF | 10% | 250V |
| C606 ⚠ | 1-127-942-51 | CERAMIC | 330PF | 10% | 250V |
| C607 | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C608 | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C609 | 1-126-968-11 | ELECT | 100UF | 20.00% | 50V |
| C610 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C611 | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C612 | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C613 | 1-117-752-11 | ELECT(BLOCK) | 330UF | 20.00% | 450V |
| C614 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C616 | 1-130-202-00 | FILM | 0.022UF | 5.00% | 400V |
| C617 | 1-107-792-11 | CERAMIC | 100PF | 5.00% | 1KV |
| C618 | 1-125-893-11 | FILM | 680PF | 3.00% | 1.5KV |
| C619 ⚠ | 1-119-886-51 | CERAMIC | 470PF | 10.00% | 250V |
| C620 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C621 | 1-102-114-00 | CERAMIC | 470PF | 10.00% | 50V |
| C622 | 1-102-074-00 | CERAMIC | 0.001UF | 10.00% | 50V |
| C623 | 1-104-665-11 | ELECT | 100UF | 20.00% | 25V |
| C624 | 1-104-331-11 | CERAMIC | 0.0022UF | 10.00% | 1KV |
| C627 | 1-102-002-00 | CERAMIC | 680PF | 10.00% | 500V |
| C628 | 1-125-813-51 | ELECT | 1000UF | 20.00% | 25V |
| C629 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C630 | 1-123-024-21 | ELECT | 33UF | | 160V |
| C633 | 1-104-999-11 | MYLAR | 0.1UF | 10.00% | 200V |
| C634 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C635 | 1-104-665-11 | ELECT | 100UF | 20.00% | 10V |
| C636 | 1-104-760-11 | CERAMIC CHIP | 0.047UF | 10.00% | 50V |

**A**

| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| C639 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C640 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C641 | 1-102-002-00 | CERAMIC | 680PF | 10.00% | 500V |
| C642 | 1-107-890-11 | ELECT | 2200UF | 20.00% | 25V |
| C643 | 1-104-665-11 | ELECT | 100UF | 20.00% | 10V |
| C644 | 1-104-331-11 | CERAMIC | 0.0022UF | 10.00% | 1KV |
| C645 | 1-137-605-11 | MYLAR | 0.01UF | 10.00% | 250V |
| C646 | 1-107-679-91 | ELECT | 10UF | 20.00% | 450V |
| C647 | 1-163-275-11 | CERAMIC CHIP | 0.001UF | 5.00% | 50V |
| C649 | 1-126-940-11 | ELECT | 330UF | 20.00% | 25V |
| C650 | 1-163-275-11 | CERAMIC CHIP | 0.001UF | 5.00% | 50V |
| C651 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C652 | 1-126-965-91 | ELECT | 22UF | 20.00% | 50V |
| C653 | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C657 | 1-101-821-00 | CERAMIC | 0.0022UF | | 500V |
| C658 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C901 | 1-136-153-00 | FILM | 0.01UF | 5.00% | 50V |
| C902 | 1-136-153-00 | FILM | 0.01UF | 5.00% | 50V |
| C905 | 1-125-805-91 | ELECT | 4.7UF | 20.00% | 50V |
| C906 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C907 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C908 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C909 | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C910 | 1-126-967-11 | ELECT | 47UF | 20.00% | 50V |
| C911 | 1-126-967-11 | ELECT | 47UF | 20.00% | 50V |
| C912 | 1-164-004-11 | CERAMIC CHIP | 0.1UF | 10.00% | 25V |
| C913 | 1-104-665-11 | ELECT | 100UF | 20.00% | 10V |
| C914 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5.00% | 50V |

<CONNECTOR>

| | | | |
|---|---|---|---|
| CN104 | | 1-695-915-11 | TAB (CONTACT) |
| CN202 | * | 1-785-608-11 | PIN, CONNECTOR 4P |
| CN203 | | 1-564-506-11 | PLUG, CONNECTOR 3P |
| CN204 | | 1-564-506-21 | PLUG, CONNECTOR 3P |
| CN305 | | 1-564-509-11 | PLUG, CONNECTOR 6P |
| CN306 | * | 1-564-510-11 | PLUG, CONNECTOR 7P |
| CN505 | | 1-564-507-11 | PLUG, CONNECTOR 4P |
| CN507 | | 1-564-507-21 | PLUG, CONNECTOR 4P |
| CN601 | | 1-580-843-11 | PIN, CONNECTOR (POWER) |
| CN602 | * | 1-508-786-00 | PIN, CONNECTOR (5MM PITCH) 2P |
| CN604 | * | 1-691-134-11 | PIN, CONNECTOR (PC BOARD) 2P |
| CN609 | * | 1-508-784-21 | PIN, CONNECTOR (5MM PITCH) 1P |
| CN901 | | 1-564-507-11 | PLUG, CONNECTOR 4P |

<DIODE>

| | | |
|---|---|---|
| D001 | 8-719-081-97 | MMDL914T1 |
| D005 | 8-719-081-97 | MMDL914T1 |
| D006 | 8-719-081-97 | MMDL914T1 |
| D010 | 8-719-158-35 | RD9.1S-B |
| D011 | 8-719-158-35 | RD9.1S-B |
| D203 | 8-719-820-41 | 1SS302 |
| D301 | 8-719-081-97 | MMDL914T1 |
| D306 | 8-719-081-97 | MMDL914T1 |
| D307 | 8-719-081-97 | MMDL914T1 |
| D308 | 8-719-081-97 | MMDL914T1 |
| D309 | 8-719-159-10 | RD5.1SB-T2 |
| D311 | 8-719-081-97 | MMDL914T1 |
| D312 | 8-719-081-97 | MMDL914T1 |
| D313 | 8-719-081-97 | MMDL914T1 |
| D314 | 8-719-081-97 | MMDL914T1 |

| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| D315 | 8-719-081-97 | MMDL914T1 | | | |
| D316 | 8-719-037-02 | RD6.8SB-T1 | | | |
| D320 | 8-719-158-35 | RD9.1S-B | | | |
| D321 | 8-719-158-35 | RD9.1S-B | | | |
| D401 | 8-719-158-35 | RD9.1S-B | | | |
| D402 | 8-719-158-35 | RD9.1S-B | | | |
| D403 | 8-719-158-35 | RD9.1S-B | | | |
| D404 | 8-719-158-35 | RD9.1S-B | | | |
| D405 | 8-719-158-35 | RD9.1S-B | | | |
| D406 | 8-719-158-35 | RD9.1S-B | | | |
| D504 | 8-719-302-43 | EL1Z | | | |
| D505 | 8-719-081-97 | MMDL914T1 | | | |
| D506 | 8-719-911-19 | 1SS119-25 | | | |
| D507 | 8-719-081-97 | MMDL914T1 | | | |
| D508 | 8-719-081-97 | MMDL914T1 | | | |
| D509 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| D510 | 8-719-081-97 | MMDL914T1 | | | |
| D511 | 8-719-081-97 | MMDL914T1 | | | |
| D512 | 8-719-081-97 | MMDL914T1 | | | |
| D513 | 8-719-908-03 | GP08D | | | |
| D517 | 8-719-081-00 | DIODE BY228/A52A/ | | | |
| D518 | 8-719-900-26 | ERD29-08J | | | |
| D521 | 8-719-302-43 | EL1Z | | | |
| D522 | 8-719-302-43 | EL1Z | | | |
| D523 | 8-719-302-43 | EL1Z | | | |
| D527 | 8-719-908-03 | GP08D | | | |
| D528 | 8-719-908-03 | GP08D | | | |
| D531 | 8-719-081-97 | MMDL914T1 | | | |
| D532 | 8-719-081-97 | MMDL914T1 | | | |
| D534 | 1-216-295-91 | SHORT CHIP | 0 | | |
| D602 | 8-719-911-19 | 1SS119-25 | | | |
| D603 | 8-719-150-92 | RD33EB3T | | | |
| D604 | 8-719-028-72 | RGP02-17EL-6433 | | | |
| D605 | 8-719-510-22 | D3SB60 | | | |
| D606 | 8-719-108-18 | 5P-6M | | | |
| D607 | 8-719-081-97 | MMDL914T1 | | | |
| D608 | 8-719-110-53 | RD20ES-B2 | | | |
| D609 | 8-719-311-31 | RU-1P | | | |
| D610 | 8-719-210-21 | 11EQS04 | | | |
| D611 | 8-719-046-74 | AU-01Z-V1 | | | |
| D613 | 8-719-046-74 | AU-01Z-V1 | | | |
| D614 | 8-719-046-74 | AU-01Z-V1 | | | |
| D615 | 8-719-312-10 | RU4AM-T3 | | | |
| D618 | 8-719-067-18 | RN4Z | | | |
| D620 | 8-719-110-72 | RD30ESB2 | | | |
| D623 | 8-719-083-83 | DIODE UDZS-TE17-15B | | | |
| D624 | 8-719-081-97 | MMDL914T1 | | | |
| D625 | 8-719-977-28 | DTZ10B | | | |
| D627 | 8-719-073-84 | 31DQ06-FC5 | | | |
| D628 | 8-719-911-19 | 1SS119-25 | | | |
| D631 | 8-719-068-00 | ERC04-06SE | | | |
| D632 | 8-719-068-00 | ERC04-06SE | | | |
| D633 | 8-719-948-45 | ERA22-08 | | | |
| D634 | 8-719-081-97 | MMDL914T1 | | | |
| D635 | 8-719-081-97 | MMDL914T1 | | | |
| D636 | 8-719-510-02 | D1NS4 | | | |
| D637 | 8-719-109-96 | RD6.8ES-B1 | | | |
| D638 | 8-719-200-82 | 11ES2 | | | |
| D901 | 8-719-158-35 | RD9.1S-B | | | |
| D902 | 8-719-158-35 | RD9.1S-B | | | |
| D903 | 8-719-158-35 | RD9.1S-B | | | |
| D904 | 8-719-158-35 | RD9.1S-B | | | |

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| REF NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| D905 | 8-719-158-35 | RD9.1S-B | |
| D906 | 8-719-083-18 | DIODE SPB-25MVWF | |
| | | <CONNECTOR> | |
| DY1 | * 1-580-798-11 | CONNECTOR PIN (DY) 6P | |
| | | <FERRITE BEAD> | |
| FB300 | 1-412-911-31 | FERRITE 0UH | |
| FB501 | 1-410-397-21 | FERRITE 1.1UH | |
| FB502 | 1-410-397-21 | FERRITE 1.1UH | |
| FB600 | 1-410-397-21 | FERRITE 1.1UH | |
| FB601 | 1-410-397-21 | FERRITE 1.1UH | |
| FB602 | 1-410-397-21 | FERRITE 1.1UH | |
| FB603 | 1-410-397-21 | FERRITE 1.1UH | |
| FB604 | 1-412-911-31 | FERRITE 0UH | |
| FB607 | 1-410-397-21 | FERRITE 1.1UH | |
| FB608 | 1-412-911-31 | FERRITE 0UH | |
| FB611 | 1-410-397-21 | FERRITE 1.1UH | |
| FB613 | 1-410-397-21 | FERRITE 1.1UH | |
| FB615 | 1-410-397-21 | FERRITE 1.1UH | |
| | | <IC> | |
| IC001 | 8-752-917-83 | IC CXP86449-631S | |
| IC002 | 8-759-371-21 | MM1319AFBE | |
| IC003 | 8-759-672-78 | M24C08-BN6(A) | |
| IC201 | 8-759-336-30 | TA8223K | |
| IC203 | 8-759-827-61 | IC TDA7442D013TR | |
| IC301 | 8-752-095-72 | CXA2159S | |
| IC302 | 8-759-672-27 | TDA9183T | |
| IC502 | 8-759-700-07 | NJM2903M | |
| IC503 | 8-759-835-98 | IC AN5522 | |
| IC601 | 8-749-013-75 | STR-F6654 | |
| IC602 | 8-749-920-61 | SE-135N | |
| IC603 | 8-759-701-59 | NJM78M09FA | |
| IC604 | 8-759-231-53 | TA7805S | |
| IC901 | 8-742-134-01 | SBX1981-51RP | |
| | | <JACK> | |
| J401 | 1-779-850-11 | JACK BLOCK, PIN 6P | |
| J901 | 1-750-264-11 | JACK | |
| J901 | 1-770-786-11 | JACK | |
| J902 | 1-770-329-12 | JACK, PIN 3P | |
| | | <CHIP CONDUCTOR> | |
| JR001 | 1-216-295-91 | SHORT CHIP 0 | |
| JR002 | 1-216-295-91 | SHORT CHIP 0 | |
| JR003 | 1-216-295-91 | SHORT CHIP 0 | |
| JR004 | 1-216-295-91 | SHORT CHIP 0 | |
| JR006 | 1-216-295-91 | SHORT CHIP 0 | |
| JR007 | 1-216-295-91 | SHORT CHIP 0 | |
| JR009 | 1-216-295-91 | SHORT CHIP 0 | |
| JR010 | 1-216-295-91 | SHORT CHIP 0 | |
| JR011 | 1-216-295-91 | SHORT CHIP 0 | |
| JR012 | 1-216-295-91 | SHORT CHIP 0 | |
| JR014 | 1-216-295-91 | SHORT CHIP 0 | |
| JR015 | 1-216-295-91 | SHORT CHIP 0 | |
| JR016 | 1-216-295-91 | SHORT CHIP 0 | |
| JR019 | 1-216-295-91 | SHORT CHIP 0 | |
| JR020 | 1-216-295-91 | SHORT CHIP 0 | |

| REF NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| JR022 | 1-216-295-91 | SHORT CHIP 0 | |
| JR023 | 1-216-295-91 | SHORT CHIP 0 | |
| JR024 | 1-216-295-91 | SHORT CHIP 0 | |
| JR025 | 1-216-295-91 | SHORT CHIP 0 | |
| JR028 | 1-216-295-91 | SHORT CHIP 0 | |
| JR102 | 1-216-295-91 | SHORT CHIP 0 | |
| JR109 | 1-216-295-91 | SHORT CHIP 0 | |
| JR112 | 1-216-295-91 | SHORT CHIP 0 | |
| JR202 | 1-216-295-91 | SHORT CHIP 0 | |
| JR204 | 1-216-295-91 | SHORT CHIP 0 | |
| JR213 | 1-216-295-91 | SHORT CHIP 0 | |
| JR214 | 1-216-295-91 | SHORT CHIP 0 | |
| JR300 | 1-216-295-91 | SHORT CHIP 0 | |
| JR304 | 1-216-295-91 | SHORT CHIP 0 | |
| JR308 | 1-216-295-91 | SHORT CHIP 0 | |
| JR309 | 1-216-295-91 | SHORT CHIP 0 | |
| JR310 | 1-216-295-91 | SHORT CHIP 0 | |
| JR311 | 1-216-295-91 | SHORT CHIP 0 | |
| JR312 | 1-216-295-91 | SHORT CHIP 0 | |
| JR400 | 1-216-295-91 | SHORT CHIP 0 | |
| JR401 | 1-216-295-91 | SHORT CHIP 0 | |
| JR403 | 1-216-295-91 | SHORT CHIP 0 | |
| JR404 | 1-216-295-91 | SHORT CHIP 0 | |
| JR405 | 1-216-295-91 | SHORT CHIP 0 | |
| JR500 | 1-216-295-91 | SHORT CHIP 0 | |
| JR501 | 1-216-295-91 | SHORT CHIP 0 | |
| JR503 | 1-216-295-91 | SHORT CHIP 0 | |
| JR505 | 1-216-295-91 | SHORT CHIP 0 | |
| JR600 | 1-216-295-91 | SHORT CHIP 0 | |
| | | <COIL> | |
| L002 | 1-414-856-11 | INDUCTOR 10UH | |
| L003 | 1-414-180-11 | INDUCTOR 3.3UH | |
| L005 | 1-414-233-22 | FERRITE 0UH | |
| L101 | 1-414-856-11 | INDUCTOR 10UH | |
| L102 | 1-414-856-11 | INDUCTOR 10UH | |
| L103 | 1-414-856-11 | INDUCTOR 10UH | |
| L104 | 1-414-856-11 | INDUCTOR 10UH | |
| L105 | 1-414-856-11 | INDUCTOR 10UH | |
| L204 | 1-414-856-11 | INDUCTOR 10UH | |
| L301 | 1-414-189-31 | INDUCTOR 100UH | |
| L302 | 1-414-185-41 | INDUCTOR 22UH | |
| L303 | 1-414-189-31 | INDUCTOR 100UH | |
| L304 | 1-414-189-31 | INDUCTOR 100UH | |
| L501 | 1-412-525-31 | INDUCTOR 10UH | |
| L502 | 1-422-613-11 | COIL, AIR CORE | |
| L503 | 1-412-525-31 | INDUCTOR 10UH | |
| L504 | 1-412-525-31 | INDUCTOR 10UH | |
| L505 | 1-412-525-31 | INDUCTOR 10UH | |
| L506 | 1-412-525-31 | INDUCTOR 10UH | |
| L507 | 1-459-111-00 | INDUCTOR 10MH | |
| L509 | 1-419-390-11 | INDUCTOR 390UH | |
| L510 | 1-416-972-11 | COIL, HORIZONTAL LINEARITY | |
| L513 | 1-412-551-31 | INDUCTOR 1.5MH | |
| L515 | 1-459-104-00 | INDUCTOR 10MH | |
| L518 | 1-414-187-11 | INDUCTOR 47UH | |
| L601 | 1-412-527-11 | INDUCTOR 15UH | |
| L901 | 1-408-603-31 | INDUCTOR 10UH | |
| L902 | 1-408-603-31 | INDUCTOR 10UH | |
| L905 | 1-414-856-11 | INDUCTOR 10UH | |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

**A**

| REF NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | | <PHOTO COUPLER> | | | |
| PH600 | ⚠ 8-749-924-35 | ON3171-R | | | |
| | | <IC LINK> | | | |
| PS200 | 1-532-675-21 | LINK, IC 1.5A/150V | | | |
| | | <TRANSISTOR> | | | |
| Q002 | 8-729-230-49 | 2SC2712-YG | | | |
| Q101 | 8-729-230-49 | 2SC2712-YG | | | |
| Q201 | 8-729-424-67 | UN2216 | | | |
| Q202 | 8-729-424-67 | UN2216 | | | |
| Q205 | 8-729-421-19 | UN2213 | | | |
| Q206 | 8-729-421-19 | UN2213 | | | |
| Q207 | 8-729-421-19 | UN2213 | | | |
| Q301 | 8-729-216-22 | 2SA1162-G | | | |
| Q302 | 8-729-230-49 | 2SC2712-YG | | | |
| Q303 | 8-729-216-22 | 2SA1162-G | | | |
| Q305 | 8-729-216-22 | 2SA1162-G | | | |
| Q306 | 8-729-230-49 | 2SC2712-YG | | | |
| Q307 | 8-729-230-49 | 2SC2712-YG | | | |
| Q308 | 8-729-216-22 | 2SA1162-G | | | |
| Q312 | 8-729-216-22 | 2SA1162-G | | | |
| Q313 | 8-729-230-49 | 2SC2712-YG | | | |
| Q314 | 8-729-216-22 | 2SA1162-G | | | |
| Q315 | 8-729-421-19 | UN2213 | | | |
| Q316 | 8-729-216-22 | 2SA1162-G | | | |
| Q317 | 8-729-216-22 | 2SA1162-G | | | |
| Q401 | 8-729-424-67 | UN2216 | | | |
| Q402 | 8-729-424-67 | UN2216 | | | |
| Q403 | 8-729-216-22 | 2SA1162-G | | | |
| Q404 | 8-729-216-22 | 2SA1162-G | | | |
| Q503 | 8-729-230-49 | 2SC2712-YG | | | |
| Q505 | 8-729-931-45 | IRF614 | | | |
| Q506 | 8-729-140-96 | 2SD774-34 | | | |
| Q507 | 8-729-216-22 | 2SA1162-G | | | |
| Q509 | 8-729-230-49 | 2SC2712-YG | | | |
| Q601 | 8-729-023-22 | 2SD2114K | | | |
| Q602 | 8-729-230-49 | 2SC2712-YG | | | |
| Q603 | 8-729-027-23 | DTA114EKA-T146 | | | |
| Q604 | 8-729-200-17 | 2SA1091-O | | | |
| Q605 | 8-729-044-30 | 2SK2845-LB102 | | | |
| Q606 | 8-729-230-49 | 2SC2712-YG | | | |
| Q607 | 8-729-922-37 | 2SD2144S-UVW | | | |
| Q608 | 8-729-230-49 | 2SC2712-YG | | | |
| Q901 | 8-729-421-19 | UN2213 | | | |
| Q902 | 8-729-421-19 | UN2213 | | | |
| | | <RESISTOR> | | | |
| R001 | 1-414-233-22 | FERRITE | 0UH | | |
| R002 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R003 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R004 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R005 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R006 | 8-719-069-60 | UDZSTE-179.1B | | | |
| R006 | 8-719-158-35 | RD9.1S-B | | | |
| R007 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R008 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R010 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |

| REF NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R011 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R012 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R013 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R014 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R015 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R017 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R018 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R019 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R020 | 1-216-045-00 | RES-CHIP | 680 | 5% | 1/10W |
| R021 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R022 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R024 | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R025 | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R026 | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R027 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R029 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R031 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R035 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R036 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R037 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R040 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R041 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R042 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R043 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R044 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R045 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R046 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R047 | 1-414-233-22 | FERRITE | 0UH | | |
| R048 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R050 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R053 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R058 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R059 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R060 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R061 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R062 | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R063 | 1-216-037-00 | RES-CHIP | 330 | 5% | 1/10W |
| R064 | 1-216-037-00 | RES-CHIP | 330 | 5% | 1/10W |
| R065 | 1-216-037-00 | RES-CHIP | 330 | 5% | 1/10W |
| R066 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R067 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R068 | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R105 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R109 | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R111 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R112 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R113 | 1-216-047-91 | RES-CHIP | 820 | 5% | 1/10W |
| R202 | 1-216-053-00 | RES-CHIP | 1.5K | 5% | 1/10W |
| R203 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R204 | 1-216-069-00 | RES-CHIP | 6.8K | 5% | 1/10W |
| R205 | 1-216-069-00 | RES-CHIP | 6.8K | 5% | 1/10W |
| R206 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R207 | 1-216-053-00 | RES-CHIP | 1.5K | 5% | 1/10W |
| R208 | 1-216-069-00 | RES-CHIP | 6.8K | 5% | 1/10W |
| R209 | 1-216-069-00 | RES-CHIP | 6.8K | 5% | 1/10W |
| R210 | 1-216-029-00 | RES-CHIP | 150 | 5% | 1/10W |
| R212 | 1-216-029-00 | RES-CHIP | 150 | 5% | 1/10W |
| R225 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R226 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R227 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R228 | 1-249-425-11 | CARBON | 4.7 | 5% | 1/4W |
| R229 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |

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| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| R230 | 1-216-069-00 | RES-CHIP | 6.8K | 5% | 1/10W |
| R231 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R234 | 1-249-425-11 | CARBON | 4.7 | 5% | 1/4W |
| R237 | 1-216-308-00 | RES-CHIP | 4.7 | 5% | 1/10W |
| R238 | 1-216-069-00 | RES-CHIP | 6.8K | 5% | 1/10W |
| R239 | 1-216-069-00 | RES-CHIP | 6.8K | 5% | 1/10W |
| R242 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R243 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R246 | 1-216-067-00 | RES-CHIP | 5.6K | 5% | 1/10W |
| R247 | 1-216-067-00 | RES-CHIP | 5.6K | 5% | 1/10W |
| R301 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R302 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R303 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R304 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R305 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R306 | 1-216-077-91 | RES-CHIP | 15K | 5% | 1/10W |
| R308 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R309 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R310 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R311 | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R312 | 1-216-039-00 | RES-CHIP | 390 | 5% | 1/10W |
| R313 | 1-216-037-00 | RES-CHIP | 330 | 5% | 1/10W |
| R314 | 1-216-083-00 | RES-CHIP | 27K | 5% | 1/10W |
| R316 | 1-216-037-00 | RES-CHIP | 330 | 5% | 1/10W |
| R317 | 1-216-091-00 | RES-CHIP | 56K | 5% | 1/10W |
| R318 | 1-216-039-00 | RES-CHIP | 390 | 5% | 1/10W |
| R319 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R320 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R321 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R322 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R323 | 1-216-053-00 | RES-CHIP | 1.5K | 5% | 1/10W |
| R324 | 1-216-053-00 | RES-CHIP | 1.5K | 5% | 1/10W |
| R325 | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R331 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R332 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R333 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R334 | 1-216-127-11 | RES-CHIP | 1.8M | 5% | 1/10W |
| R335 | 1-216-045-00 | RES-CHIP | 680 | 5% | 1/10W |
| R338 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R340 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R345 | 1-216-081-00 | RES-CHIP | 22K | 5% | 1/10W |
| R348 | 1-208-806-11 | METAL CHIP | 10K | 0.5% | 1/10W |
| R349 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R350 | 1-216-061-91 | RES-CHIP | 3.3K | 5% | 1/10W |
| R351 | 1-216-053-00 | RES-CHIP | 1.5K | 5% | 1/10W |
| R354 | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R355 | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R356 | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R357 | 1-216-079-00 | RES-CHIP | 18K | 5% | 1/10W |
| R358 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R359 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R360 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R361 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R362 | 1-216-075-00 | RES-CHIP | 12K | 5% | 1/10W |
| R363 | 1-216-079-00 | RES-CHIP | 18K | 5% | 1/10W |
| R364 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R365 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R366 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R367 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R370 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R371 | 1-216-083-00 | RES-CHIP | 27K | 5% | 1/10W |
| R372 | 1-216-091-00 | RES-CHIP | 56K | 5% | 1/10W |
| R376 | 1-216-081-00 | RES-CHIP | 22K | 5% | 1/10W |

| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| R377 | 1-216-121-11 | RES-CHIP | 1M | 5% | 1/10W |
| R378 | 1-216-053-00 | RES-CHIP | 1.5K | 5% | 1/10W |
| R379 | 1-218-179-11 | RES-CHIP | 10M | 5% | 1/10W |
| R380 | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R383 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R384 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R385 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R391 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R401 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R402 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R403 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R404 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R405 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R406 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R407 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R408 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R409 | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R410 | 1-216-113-00 | RES-CHIP | 470K | 5% | 1/10W |
| R411 | 1-216-113-00 | RES-CHIP | 470K | 5% | 1/10W |
| R412 | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R413 | 1-216-021-00 | RES-CHIP | 68 | 5% | 1/10W |
| R414 | 1-216-113-00 | RES-CHIP | 470K | 5% | 1/10W |
| R415 | 1-216-113-00 | RES-CHIP | 470K | 5% | 1/10W |
| R416 | 1-216-077-91 | RES-CHIP | 15K | 5% | 1/10W |
| R417 | 1-216-077-91 | RES-CHIP | 15K | 5% | 1/10W |
| R418 | 1-216-113-00 | RES-CHIP | 470K | 5% | 1/10W |
| R419 | 1-216-022-00 | RES-CHIP | 75 | 5% | 1/10W |
| R426 | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R505 | 1-216-099-00 | RES-CHIP | 120K | 5% | 1/10W |
| R506 | 1-216-085-91 | RES-CHIP | 33K | 5% | 1/10W |
| R507 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W |
| R508 | 1-215-910-00 | METAL OXIDE | 68 | 5% | 3W |
| R509 | 1-215-911-11 | METAL OXIDE | 100 | 5% | 3W |
| R510 | 1-215-885-00 | METAL OXIDE | 68 | 5% | 2W |
| R511 | 1-215-911-11 | METAL OXIDE | 100 | 5% | 3W |
| R516 | 1-216-081-00 | RES-CHIP | 22K | 5% | 1/10W |
| R518 | 1-249-441-11 | CARBON | 100 | 5% | 1/4W |
| R520 | 1-215-445-00 | METAL | 10K | 1% | 1/4W |
| R522 | 1-208-806-11 | METAL CHIP | 10K | 0.5% | 1/10W |
| R523 | 1-247-891-00 | CARBON | 330 | 5% | 1/4W |
| R525 | 1-208-830-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R526 | 1-208-798-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R527 | 1-216-001-00 | RES-CHIP | 10 | 5% | 1/10W |
| R528 | 1-208-814-91 | METAL CHIP | 22K | 0.5% | 1/10W |
| R529 | 1-216-635-11 | METAL CHIP | 220 | 0.5% | 1/10W |
| R531 | 1-249-387-11 | CARBON | 3.3K | 5% | 1/4W |
| R533 | 1-249-381-11 | CARBON | 1K | 5% | 1/4W |
| R534 | 1-216-361-00 | METAL OXIDE | 0.22 | 5% | 2W |
| R535 | 1-216-067-00 | RES-CHIP | 5.6K | 5% | 1/10W |
| R536 | 1-216-067-00 | RES-CHIP | 5.6K | 5% | 1/10W |
| R537 | 1-208-814-91 | METAL CHIP | 22K | 0.5% | 1/10W |
| R540 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R541 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R542 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R543 | 1-216-437-00 | METAL OXIDE | 5.6K | 5% | 1W |
| R544 | 1-215-894-11 | METAL OXIDE | 2.2K | 5% | 2W |
| R545 | 1-216-077-91 | RES-CHIP | 15K | 5% | 1/10W |
| R546 | 1-216-077-91 | RES-CHIP | 15K | 5% | 1/10W |
| R547 | 1-216-085-91 | RES-CHIP | 33K | 5% | 1/10W |
| R549 | 1-215-451-00 | METAL | 18K | 1% | 1/4W |
| R550 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R551 | 1-249-385-11 | CARBON | 2.2K | 5% | 1/4W |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

**A**

| REF NO. | | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|---|
| R552 | | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R553 | | 1-215-457-00 | METAL | 33K | 1% | 1/4W |
| R554 | | 1-215-457-00 | METAL | 33K | 1% | 1/4W |
| R556 | | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W |
| R558 | | 1-249-385-11 | CARBON | 2.2K | 5% | 1/4W |
| R559 | | 1-249-393-11 | CARBON | 10K | 5% | 1/4W |
| R560 | | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R562 | | 1-247-871-91 | CARBON | 47 | 5% | 1/4W |
| R565 | | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R567 | | 1-216-105-91 | RES-CHIP | 220K | 5% | 1/10W |
| R569 | | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W |
| R570 | | 1-216-069-00 | RES-CHIP | 6.8K | 5% | 1/10W |
| R571 | | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W |
| R573 | | 1-216-089-91 | RES-CHIP | 47K | 5% | 1/10W |
| R577 | | 1-215-888-00 | METAL OXIDE | 220 | 5% | 2W |
| R578 | | 1-216-349-00 | METAL OXIDE | 1 | 5% | 1W |
| R579 | | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R580 | | 1-208-830-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R581 | | 1-208-794-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R582 | | 1-208-846-11 | METAL CHIP | 470K | 0.5% | 1/10W |
| R584 | | 1-216-295-91 | SHORT CHIP | 0 | | |
| R585 | | 1-249-391-11 | CARBON | 6.8 | 5% | 1/4W |
| R587 | | 1-208-834-11 | METAL CHIP | 150K | 0.5% | 1/10W |
| R588 | | 1-215-888-00 | METAL OXIDE | 220 | 5% | 2W |
| R589 | | 1-215-888-00 | METAL OXIDE | 220 | 5% | 2W |
| R590 | | 1-215-465-00 | METAL | 68K | 1% | 1/4W |
| R591 | | 1-260-288-11 | CARBON | 0.47 | 5% | 1/2W |
| R593 | | 1-260-288-11 | CARBON | 0.47 | 5% | 1/2W |
| R594 | | 1-260-288-11 | CARBON | 0.47 | 5% | 1/2W |
| R596 | | 1-215-921-11 | METAL OXIDE | 4.7K | 5% | 3W |
| R597 | | 1-247-750-11 | CARBON | 680 | 5% | 1/2W |
| R598 | | 1-249-402-11 | CARBON | 56K | 5% | 1/4W |
| R599 | | 1-249-425-11 | CARBON | 4.7 | 5% | 1/4W |
| R600 | | 1-249-402-11 | CARBON | 56K | 5% | 1/4W |
| R601 | | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R602 | | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W |
| R603 | | 1-215-485-00 | METAL | 470K | 1% | 1/4W |
| R604 | | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R607 | | 1-249-389-11 | CARBON | 4.7K | 5% | 1/4W |
| R608 | | 1-240-205-91 | CARBON | 22M | 5% | 1/2W |
| R609 | | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R610 | | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R611 | | 1-216-089-91 | RES-CHIP | 47K | 5% | 1/10W |
| R612 | | 1-216-045-00 | RES-CHIP | 680 | 5% | 1/10W |
| R614 | | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R615 | | 1-216-350-11 | METAL OXIDE | 1.2 | 5% | 1W |
| R616 | | 1-260-302-51 | CARBON | 6.8 | 5% | 1/2W |
| R617 | | 1-249-433-11 | CARBON | 22 | 5% | 1/4W |
| R619 | | 1-260-128-11 | CARBON | 270K | 5% | 1/2W |
| R620 | | 1-215-915-11 | METAL OXIDE | 470 | 5% | 3W |
| R622 | | 1-215-908-00 | METAL OXIDE | 33 | 5% | 3W |
| R623 | | 1-216-095-00 | RES-CHIP | 82K | 5% | 1/10W |
| R624 | | 1-216-089-91 | RES-CHIP | 47K | 5% | 1/10W |
| R626 | | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R627 | | 1-240-251-11 | CEMENTED | 6.8 | 5% | 10W |
| R629 | | 1-247-747-11 | CARBON | 470 | 5% | 1/2W |
| R630 | | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R631 | | 1-216-089-91 | RES-CHIP | 47K | 5% | 1/10W |
| R632 | | 1-202-933-61 | FUSIBLE | 0.1 | 10% | 1/2W |
| R634 | ⚠ | 1-247-289-11 | METAL | 8.2M | 5% | 1W |
| R635 | | 1-216-492-11 | METAL OXIDE | 82K | 5% | 3W |
| R636 | | 1-215-924-00 | METAL OXIDE | 15K | 5% | 3W |
| R637 | | 1-216-492-11 | METAL OXIDE | 82K | 5% | 3W |

| REF NO. | | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|---|
| R639 | | 1-216-363-00 | METAL OXIDE | 0.33 | 5% | 2W |
| R640 | | 1-247-899-11 | CARBON | 680 | 5% | 1/4W |
| R641 | | 1-216-362-11 | METAL OXIDE | 0.27 | 5% | 2W |
| R642 | | 1-249-383-11 | CARBON | 1.5K | 5% | 1/4W |
| R643 | | 1-249-387-11 | CARBON | 3.3K | 5% | 1/4W |
| R644 | | 1-249-383-11 | CARBON | 1.5K | 5% | 1/4W |
| R646 | | 1-215-924-00 | METAL OXIDE | 15K | 5% | 3W |
| R647 | | 1-247-871-91 | CARBON | 47 | 5% | 1/4W |
| R648 | | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R649 | | 1-249-381-11 | CARBON | 1K | 5% | 1/4W |
| R650 | | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W |
| R652 | | 1-215-925-11 | METAL OXIDE | 22K | 5% | 3W |
| R653 | | 1-215-873-00 | METAL OXIDE | 4.7K | 5% | 1W |
| R657 | | 1-249-409-11 | CARBON | 220K | 5% | 1/2W |
| R659 | | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R660 | | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R661 | | 1-215-873-00 | METAL OXIDE | 4.7K | 5% | 1W |
| R680 | | 1-216-308-00 | RES-CHIP | 4.7 | 5% | 1/10W |
| R901 | | 1-247-891-00 | CARBON | 330 | 5% | 1/4W |
| R902 | | 1-247-891-00 | CARBON | 330 | 5% | 1/4W |
| R903 | | 1-216-022-00 | RES-CHIP | 75 | 5% | 1/10W |
| R904 | | 1-216-033-00 | RES-CHIP | 220 | 5% | 1/10W |
| R905 | | 1-216-113-00 | RES-CHIP | 470K | 5% | 1/10W |
| R906 | | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R907 | | 1-216-113-00 | RES-CHIP | 470K | 5% | 1/10W |
| R908 | | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R909 | | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R910 | | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R911 | | 1-216-067-00 | RES-CHIP | 5.6K | 5% | 1/10W |
| R912 | | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R913 | | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R914 | | 1-216-055-00 | RES-CHIP | 1.8K | 5% | 1/10W |
| R915 | | 1-216-061-91 | RES-CHIP | 3.3K | 5% | 1/10W |
| R916 | | 1-216-017-91 | RES-CHIP | 47 | 5% | 1/10W |
| R917 | | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |
| R918 | | 1-216-041-00 | RES-CHIP | 470 | 5% | 1/10W |

<RELAY>

| | | | |
|---|---|---|---|
| RY601 | ⚠ | 1-755-214-11 | RELAY, AC POWER |

<SWITCH>

| | | | |
|---|---|---|---|
| S502 | | 1-572-707-11 | SWITCH, LEVER |
| S600 | ⚠ | 1-571-433-31 | SWITCH, PUSH (AC POWER) |
| S901 | | 1-692-431-21 | SWITCH, TACTILE |
| S902 | | 1-692-431-21 | SWITCH, TACTILE |
| S903 | | 1-692-431-21 | SWITCH, TACTILE |
| S904 | | 1-692-431-21 | SWITCH, TACTILE |
| S905 | | 1-692-431-21 | SWITCH, TACTILE |
| S906 | | 1-692-431-21 | SWITCH, TACTILE |
| S907 | | 1-692-431-21 | SWITCH, TACTILE |

<TRANSFORMER>

| | | | |
|---|---|---|---|
| T501 | | 1-437-195-11 | TRANSFORMER, HORIZONTAL DRIVE |
| T503 | ⚠ | 1-453-293-11 | TRANSFORMER ASSY, FLYBACK |
| | | | (NX-1748//M3A4) |
| T601 | | 1-424-682-11 | TRANSFORMER, LINE FILTER |
| T603 | ⚠ | 1-437-621-11 | TRANSFORMER, CONVERTER (SRT) |
| T604 | ⚠ | 1-431-852-11 | TRANSFORMER, CONVERTER (SRT) |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

**A** **C1**

| REF NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | | <THERMISTOR> | | | |
| TH600 | 1-803-586-11 | THERMISTOR, NTC | | | |
| | | <THERMISTOR> | | | |
| THP600 | 1-803-951-11 | THERMISTOR, PTC | | | |
| | | <TUNER> | | | |
| TU101 | 8-598-449-20 | TUNER, FSS BTF-LG433 | | | |
| | | <CRYSTAL> | | | |
| X001 | 1-579-125-11 | VIBRATOR, CERAMIC | | | |
| X301 | 1-781-134-21 | VIBRATOR, CRYSTAL | | | |
| X302 | 1-781-132-21 | VIBRATOR, CRYSTAL | | | |
| ********** | | | | | |
| * | A-1332-195-A | C1 BOARD MOUNTED<br>********** | | | |
| | 7-682-948-01 | SCREW +PSW 3X8 | | | |
| | | <CAPACITOR> | | | |
| C700 | 1-102-074-00 | CERAMIC | 0.001UF | 10.00% | 50V |
| C701 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C702 | 1-102-114-00 | CERAMIC | 470PF | 10.00% | 50V |
| C703 | 1-110-389-11 | FILM | 0.1UF | 5% | 250V |
| C705 | 1-115-350-51 | CERAMIC | 0.0047UF | | 2KV |
| C706 | 1-130-202-00 | FILM | 0.022UF | 5.00% | 400V |
| C707 | 1-107-651-11 | ELECT | 4.7UF | 20.00% | 250V |
| C1803 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C1804 | 1-125-797-91 | ELECT | 10UF | 20.00% | 50V |
| C1809 | 1-125-813-51 | ELECT | 1000UF | 20.00% | 25V |
| C5952 | 1-107-616-11 | CERAMIC | 150PF | 10.00% | 500V |
| C5954 | 1-102-112-00 | CERAMIC | 330PF | 10.00% | 50V |
| C5955 | 1-126-947-11 | ELECT | 47UF | 20.00% | 16V |
| C5961 | 1-161-830-00 | CERAMIC | 0.0047UF | | 500V |
| C5962 | 1-130-491-00 | MYLAR | 0.047UF | 5.00% | 50V |
| C5963 | 1-107-638-11 | ELECT | 33UF | 20.00% | 160V |
| C5964 | 1-126-935-11 | ELECT | 470UF | 20.00% | 10V |
| C5968 | 1-106-383-00 | MYLAR | 0.047UF | 10.00% | 200V |
| C5969 | 1-107-949-11 | ELECT | 2.2UF | 20.00% | 160V |
| C5970 | 1-104-999-11 | MYLAR | 0.1UF | 10.00% | 200V |
| C5972 | 1-126-935-11 | ELECT | 470UF | 20.00% | 16V |
| C5973 | 1-130-491-00 | MYLAR | 0.047UF | 5.00% | 50V |
| C5975 | 1-126-935-11 | ELECT | 470UF | 20.00% | 10V |
| C5978 | 1-130-471-00 | MYLAR | 0.001UF | 5.00% | 50V |
| C5979 | 1-130-471-00 | MYLAR | 0.001UF | 5.00% | 50V |
| C5980 | 1-126-947-11 | ELECT | 47UF | 20.00% | 10V |
| | | <CONNECTOR> | | | |
| CN700 | 1-695-915-11 | TAB (CONTACT) | | | |
| CN701 | 1-564-509-11 | PLUG, CONNECTOR 6P | | | |
| CN703 | 1-695-915-11 | TAB (CONTACT) | | | |
| CN706 | 1-564-507-11 | PLUG, CONNECTOR 4P | | | |
| CN1801 | 1-564-507-21 | PLUG, CONNECTOR 4P | | | |

| REF NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| CN1802 | 1-564-506-21 | PLUG, CONNECTOR 3P | | | |
| CN5961 * | 1-564-510-11 | PLUG, CONNECTOR 7P | | | |
| CN5962 | 1-564-506-11 | PLUG, CONNECTOR 3P | | | |
| | | <DIODE> | | | |
| D704 | 8-719-911-19 | 1SS119-25 | | | |
| D705 | 8-719-911-19 | 1SS119-25 | | | |
| D707 | 8-719-051-85 | HSS83TD | | | |
| D708 | 8-719-051-85 | HSS83TD | | | |
| D709 | 8-719-051-85 | HSS83TD | | | |
| D1803 | 8-719-911-19 | 1SS119-25 | | | |
| D1804 | 8-719-911-19 | 1SS119-25 | | | |
| D1808 | 8-719-908-03 | GP08D | | | |
| D5964 | 8-719-911-19 | 1SS119-25 | | | |
| D5967 | 8-719-110-86 | RD39ES-B | | | |
| D5968 | 8-719-110-86 | RD39ES-B | | | |
| | | <IC> | | | |
| IC700 | 8-759-712-99 | IC TDA6107Q/N2 | | | |
| IC1800 | 8-759-822-38 | LA6510 | | | |
| | | <JACK> | | | |
| J701 ⚠ | 1-540-071-22 | SOCKET, CRT | | | |
| | | <COIL> | | | |
| L705 | 1-414-186-31 | INDUCTOR | 33UH | | |
| L707 | 1-414-186-31 | INDUCTOR | 33UH | | |
| L708 | 1-410-667-31 | INDUCTOR | 22UH | | |
| L5961 | 1-414-187-11 | INDUCTOR | 47UH | | |
| | | <TRANSISTOR> | | | |
| Q700 | 8-729-119-76 | 2SA1175-HFE | | | |
| Q1802 | 8-729-119-78 | 2SC2785-HFE | | | |
| Q5961 | 8-729-423-33 | 2SC3311A-QRSTA | | | |
| Q5962 | 8-729-423-33 | 2SC3311A-QRSTA | | | |
| Q5963 | 8-729-017-05 | 2SA1837 | | | |
| Q5965 | 8-729-017-06 | 2SC4793 | | | |
| Q5967 | 8-729-423-33 | 2SC3311A-QRSTA | | | |
| Q5968 | 8-729-119-76 | 2SA1175-HFE | | | |
| | | <RESISTOR> | | | |
| R700 | 1-219-743-11 | CARBON | 100 | 5% | 1/2W |
| R703 | 1-249-441-11 | CARBON | 100 | 5% | 1/4W |
| R704 | 1-249-441-11 | CARBON | 100 | 5% | 1/4W |
| R705 | 1-249-441-11 | CARBON | 100 | 5% | 1/4W |
| R709 | 1-219-746-11 | CARBON | 1K | 5% | 1/2W |
| R710 | 1-219-746-11 | CARBON | 1K | 5% | 1/2W |
| R711 | 1-219-746-11 | CARBON | 1K | 5% | 1/2W |
| R712 | 1-219-752-11 | CARBON | 100K | 5% | 1/2W |
| R713 | 1-216-399-00 | METAL OXIDE | 6.8 | 5% | 3W |
| R714 | 1-216-380-11 | METAL OXIDE | 8.2 | 5% | 2W |
| R715 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R716 | 1-249-393-11 | CARBON | 10K | 5% | 1/4W |
| R717 | 1-249-441-11 | CARBON | 100 | 5% | 1/4W |
| R718 | 1-249-392-11 | CARBON | 8.2K | 5% | 1/4W |
| R719 | 1-215-473-00 | METAL | 150K | 1% | 1/4W |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

**C1 F**

| REF NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R720 | 1-215-473-00 | METAL | 150K | 1% | 1/4W |
| R722 | 1-247-891-00 | CARBON | 330K | 5% | 1/4W |
| R1802 | 1-249-382-11 | CARBON | 1.2 | 5% | 1/4W |
| R1803 | 1-249-382-11 | CARBON | 1.2 | 5% | 1/4W |
| R1805 | 1-249-393-11 | CARBON | 10K | 5% | 1/4W |
| R1806 | 1-249-389-11 | CARBON | 4.7K | 5% | 1/4W |
| R1808 | 1-249-389-11 | CARBON | 4.7K | 5% | 1/4W |
| R1809 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R1810 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R1811 | 1-249-440-11 | CARBON | 82K | 5% | 1/4W |
| R1812 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R1821 | 1-249-440-11 | CARBON | 82K | 5% | 1/4W |
| R1822 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R1823 | 1-249-390-11 | CARBON | 5.6K | 5% | 1/4W |
| R1824 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R5950 | 1-247-871-91 | CARBON | 47 | 5% | 1/4W |
| R5951 | 1-249-436-11 | CARBON | 39 | 5% | 1/4W |
| R5952 | 1-249-398-11 | CARBON | 27 | 5% | 1/4W |
| R5961 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W |
| R5962 | 1-249-441-11 | CARBON | 100 | 5% | 1/4W |
| R5963 | 1-249-381-11 | CARBON | 1K | 5% | 1/4W |
| R5964 | 1-260-312-11 | CARBON | 47 | 5% | 1/2W |
| R5965 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R5966 | 1-249-381-11 | CARBON | 1K | 5% | 1/4W |
| R5967 | 1-247-889-00 | CARBON | 270 | 5% | 1/4W |
| R5968 | 1-249-381-11 | CARBON | 1K | 5% | 1/4W |
| R5969 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W |
| R5971 | 1-247-887-00 | CARBON | 220 | 5% | 1/4W |
| R5972 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R5973 | 1-249-439-11 | CARBON | 68 | 5% | 1/4W |
| R5974 | 1-216-476-11 | METAL OXIDE | 180 | 5% | 3W |
| R5975 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R5976 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R5977 | 1-249-393-11 | CARBON | 10K | 5% | 1/4W |
| R5978 | 1-249-441-11 | CARBON | 100 | 5% | 1/4W |
| R5979 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R5980 | 1-249-441-11 | CARBON | 100 | 5% | 1/4W |
| R5981 | 1-247-901-11 | CARBON | 820 | 5% | 1/4W |
| R5982 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W |
| R5985 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R5986 | 1-249-397-11 | CARBON | 22 | 5% | 1/4W |
| | | <VARIABLE RESISTOR> | | | |
| RV700 | 1-241-656-11 | RES, ADJ, METAL FILM 110M | | | |
| | | <SPARK GAP> | | | |
| SG700 | 1-519-422-11 | GAP, SPARK | | | |
| SG701 | 1-519-422-11 | GAP, SPARK | | | |
| SG702 | 1-519-422-11 | GAP, SPARK | | | |

| REF NO. | | PART NO. | DESCRIPTION | | | |
|---|---|---|---|---|---|---|
| ********** | | | | | | |
| | * | A-1241-498-A | F BOARD MOUNTED | | | |
| | | | ********** | | | |
| | | 1-533-223-11 | CLIP, FUSE | | | |
| | | 1-803-830-11 | VARISTOR (ERZV14D621) | | | |
| | | | <CAPACITOR> | | | |
| C654 | ⚠ | 1-117-703-511 | CERAMIC | 0.0047UF | 99% | 250V |
| C4602 | ⚠ | 1-104-708-51 | MYLAR | 0.47UF | 20.00% | 250V |
| | | | <CONNECTOR> | | | |
| CN4601 | | 1-580-843-11 | PIN, CONNECTOR (POWER) | | | |
| CN4602 | | 1-580-843-11 | PIN, CONNECTOR (POWER) | | | |
| CN4603 | | 1-695-915-11 | TAB (CONTACT) | | | |
| | | | <FUSE> | | | |
| F4601 | ⚠ | 1-576-016-11 | FUSE, TIME-LAG (BET) 3.15A/250V | | | |
| | | | <RESISTOR> | | | |
| R4601 | ⚠ | 1-202-885-91 | SOLID | 1M | 10% | 1/2W |
| | | | <TRANSFORMER> | | | |
| T4601 | | 1-424-682-11 | TRANSFORMER, LINE FILTER | | | |
| T4602 | | 1-424-682-11 | TRANSFORMER, LINE FILTER | | | |
| ********** | | | | | | |
| | | | ACCESSORIES AND PACKING MATERIALS | | | |
| | | | ********** | | | |
| | | 3-701-910-00 | SCREW, SPECIAL (DIA. 3.8X20) | | | |
| | * | 4-053-003-01 | BAG, PROTECTION | | | |
| | * | 4-083-608-01 | CUSHION (UPPER) (ASSY) | | | |
| | * | 4-083-609-01 | CUSHION (LOWER) (ASSY) | | | |
| | * | 4-089-394-01 | INDIVIDUAL CARTON | | | |
| | | 4-082-462-13 | MANUAL, INSTRUCTION | | | |
| | | 4-392-003-31 | BAND, HOLD | | | |
| | | 4-392-004-21 | CLIP | | | |
| ********** | | | | | | |
| | | | BATTERY COVER REMOTE COMMANDER | | | |
| | | | ********** | | | |
| | | 1-418-163-12 | REMOTE COMMANDER (RM-952) | | | |
| | | 9-939-697-01 | BATTERY COVER REMOTE COMMANDER | | | |

**Sony Corporation**
**Sony Technology Malaysia Sdn. Bhd.**
**Visual Products**

**9-872-310-01**

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